APPENDIX A

OBRA Reuse Plan Executive Summary

EXECUTIVE SUMMARY

Oakland Army Base (OARB) is an Army warehousing and cargo terminal located near the center of the San Francisco-Oakland, California greater metropolitan area. The 422-acre Base is located approxi-mately 2 miles northwest of Oakland's central business district on the Oakland waterfront just south of the eastern terminus of the San Francisco-Oakland Bay Bridge (Bay Bridge).

In June 1995, the Defense Base Realignment and Closure Commission recommended OARB for closure and authorized the establishment of an Army Reserve Enclave on a small part of the Base to continue after its closure. Per the BRAC decision, OARB is scheduled to close no later than July 13, 2001 and may, at the Army's discretion, close earlier than this date. Following OARB's closure, most of its 422 acres and 93 buildings will be available for civilian reuse and redevelopment.

The *Oakland Army Base (OARB) Draft Final Reuse Plan* is a planning document prepared by the Oakland Base Reuse Authority (OBRA), the designated local redevelopment authority for OARB, which repre-sents the Oakland community's preferred reuse vision for the Base. The *Draft Final Reuse Plan* defines an economically viable direction for reuse of OARB which leverages the best opportunities provided by the reuse of this Base to meet Oakland's economic and community development objectives. It is based on an intensive and extensive public planning process (see Section 1.2 - Reuse Planning Process) that involved a wide variety of community members and stakeholder groups (see Chapter 9 - Report Preparation).

To ensure that the reuse planning process incorporated community interests, priorities, and ideas for the future of the Base, OBRA created the West Oakland Community Advisory Group (WOCAG). The WOCAG General Assembly and its committees examined reuse opportunities for OARB which would provide jobs, business and economic development opportunities, education and training, homeless and social services, and open space. Many creative ideas and recommendations from WOCAG, the business community, and the public input process are reflected in this *Draft Final Reuse Plan*. WOCAG worked with OBRA to ensure that job training programs, public access and environmental components, and open space resources were adequately considered and incorporated into the *Draft Final Reuse Plan.*

The land use plan for reuse of OARB is focused upon a balanced economic and community development approach for the reuse and redevelopment of the Base (see Section 3.1 - Land Use Plan). The overarching objective of this land use plan is to define a clear but flexible land use direction for the reuse of OARB properties which best capitalizes on the Base's location, assets, and economic development potential; fully responds to the local community's needs and concerns; and incorporates the reuse themes, goals, and objectives developed during the reuse planning process (see Chapter 2 - Reuse Principles, Goals, and Objectives). In this regard, the land use plan is structured along two major inter-related and complementary land use concepts described as follows:

Maritime Expansion: The 194-acre Maritime District, including OARB properties west of Maritime Street and an expanded Knight Railyard, is strategically positioned along the Outer Harbor waterfront to

support Oakland's historical preeminence as a major West Coast maritime center. As a semi-developed Army port facility, the Maritime District represents a unique asset necessary to support Oakland's continued competitive position in the maritime services market. This portion of the Base will be used for maritime and maritime-related uses, and will include a public access shoreline park at the western end of the Bay Bridge isthmus (see Section 4.2 - Open Space and Recreation).

Oakland Business and Technology Park: The combination of OARB's central metropolitan location, excellent transportation access, and potential for large-scale new development offers Oakland a strong opportunity to capture "forward-looking" industries and allow the City to better diversify its economic base. This vision will be embodied in the development of an Oakland Business and Technology Park on OARB properties east of Maritime Street. Business and technology uses, including maritime supporting uses, are envisioned in the OARB "gateway" locations. A portion of this area will function as a Workforce and Business Development Campus, providing a variety of community-oriented services (e.g., job training/placement, small business development).

In order to define its preferred approach for realizing this land use plan, the City of Oakland has defined a conceptual reuse strategy that envisions a phased and strategic conversion of OARB from its historical Army use as a warehousing and cargo terminal toward a more diversified reuse program which includes a mix of industrial, business, technology, and workforce training uses (see Section 3.2 Reuse/Redevelopment Strategy) (see Figure S-1). The conceptual reuse strategy is defined for three different timelines described as follows:

Interim Period: The interim period spans the time period between the vacation of Base facilities by the Army and its tenants (currently underway) and title transfer of Base property from the Army to the City of Oakland or a civilian user (expected by January 1, 2002). Generally, due to environmental restrictions, interim reuse of Base facilities must be similar to the existing (or prior Army) use. As shown in Table S-1, interim reuse of the Base will focus primarily on warehousing and maritime operations with approximately 69% of the Base's total floor area slated for market-rate civilian uses.

Transition Period: The transition period begins after Army conveyance of OARB property (estimated no later than January 1, 2002) and concludes with final build-out at the Base (estimated in year 2012). During the transition period, the Base will be strategically redeveloped from its interim reuse state to include industrial mix and job training/placement uses In support of creating an Oakland Business and Technology Park on the Base (as described In the OARB land use plan).

Build-out: This period reflects OARB's ultimate long-term use program after all primary redevelopment activities have been completed (estimated by year 2012). Although the build-out floor area is comparable to the Base's existing floor area (3 million sqft versus 3.2 million sqft), the job density profile of the end reuse state (see Table S-1) offers a much higher employment potential, due to its more intensive use profile, than that historically associated with OARB (6,900 versus 2,000 jobs).

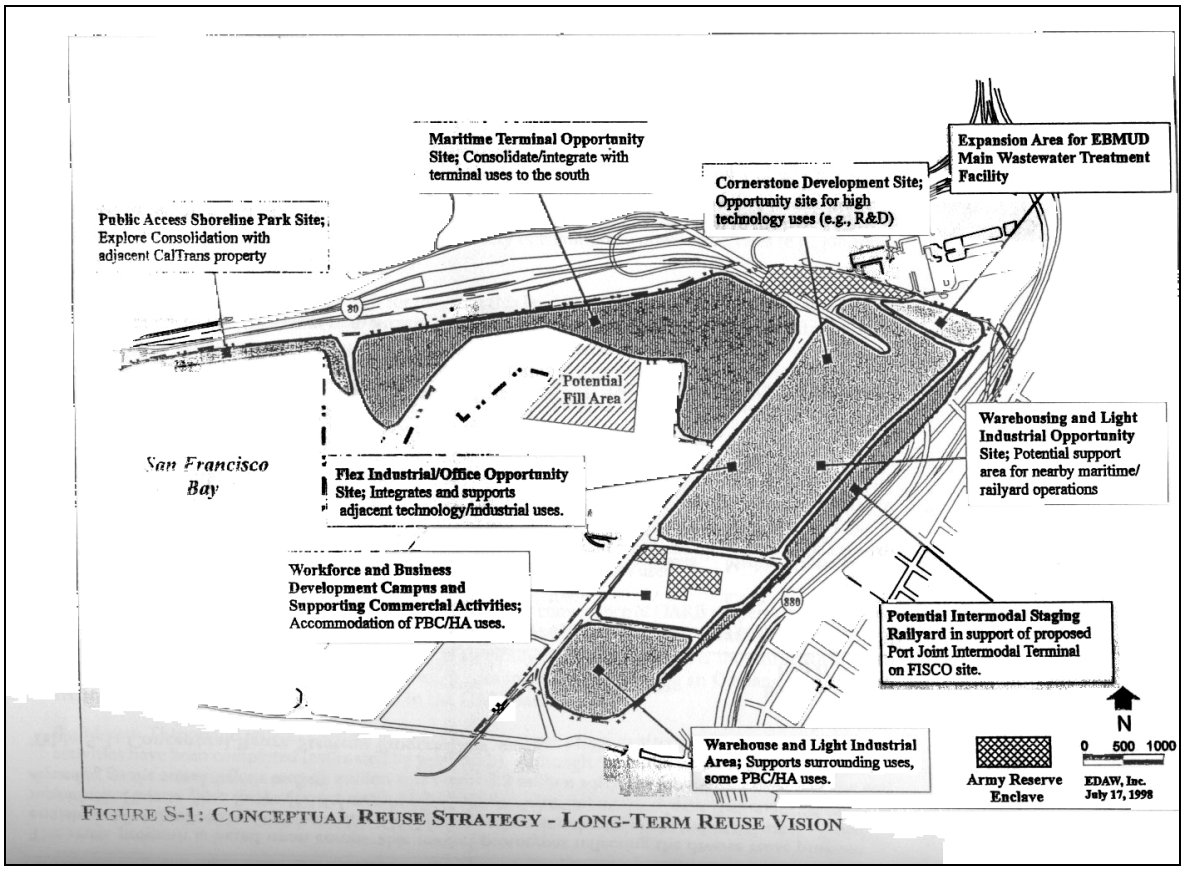

FIGURE S-1: CONCEPTUAL REUSE STRATEGY - LONG-TERM REUSE VISION

The reuse program is based upon comparable market prototypes reflecting the diverse reuse program envisioned for the Base by OBRA and WOCAG (e.g., warehousing through light industrial uses). Actual *supportable Floor to Area Ratios [FARs] may be higher (up to 4.0 on a parcel level or 1.0 on a district level*) *depending on the actual use mix on Base.*

Table S-1: Conceptual Reuse Strategy Program Summary

	Existing (1995)	Interim (1998-2001)	Transition (2002-2011)	Build-out* (2012)
Floor Area (sqft)	**3,190,000**	**2,200,000**	**Varies**	**3,000,000**
Employment Potential	**2,000**	**2,000**	**Varies**	**6,900**
Primary Uses	**Warehouse/Distr.** **Maritime Operations**	**Warehouse/Distr.** **Maritime Operations** **Job Training/Placement**	**Maritime Operations** **Light Industrial** **Warehouse/Distr.** **Flex Industrial/Office** **High-Tech (e.g., R&D)** **Job Training/Placement**	**Maritime Operations** **Light Industrial** **Warehouse/Distr.** **Flex Industrial/Office** **High-Tech (e.g., R&D)** **Job Training/Placement**
Secondary Uses	**Office** **Light Industrial** **Community Services**	**Office** **Storage** **Light Industrial**	**Ancillary Retail** **Business Services**	**Ancillary Retail** **Business Services**

*** Based upon an average Floor to Area Ratio (FAR) of 0.40 for new development (NOTE: specific parcel FARs may be significantly higher for some uses)**
Source: EDAW, Inc.

Implementation of the conceptual reuse strategy will require substantial improvement to the Base's existing utility and transportation systems, as well as improvements to nearby roadways and intersections. Identification of these improvements is a critical part of the reuse planning process and will serve to better focus future implementation planning for the Base.

Given the employment generation potential of the conceptual reuse strategy, reuse of OARB will likely require significant improvements (see Chapter 5 - Transportation and Circulation) to the local transportation network. Almost all Bay Area freeways will operate at capacity during peak commute periods with or without redevelopment of OARB. Many roadways and intersections, both on and off-Base, will need to be upgraded to provide adequate capacity and traffic circulation to support reuse of the Base. In

concert with these efforts, the San Francisco Bay Trail will be extended into and across OARB and connect with the proposed shoreline park on the Bay Bridge Isthmus. The OARB sanitary sewer, stormwater, electrical, natural gas, and part of the water distribution systems are owned by the Army Most of these systems are in working order and adequately serve the Army's current needs. However, given the high use intensities envisioned by the conceptual reuse strategy, the age of many of the Base's utility systems, and their potential deficiencies with regard to State codes, all of the utility Infrastructure systems on the Base will require some level of improvement (see Chapter 6 Utility Infrastructure). A detailed analysis of these systems by their ultimate designated civilian service providers will be necessary before a final determination of required system improvements can be made.

A critical component of the OARB reuse planning process is the determination of how property will ultimately be transferred from the Army to the entities that will reuse the property in order for Oakland to best Implement its Reuse Plan, OBRA is pursuing an Economic Development Conveyance (EDC) based strategy for most OARB property east of Maritime Street. The EDC mechanism will allow OBRA to request OARB property at or below fair market value and most equitably balance the Reuse Plan's economic development and community development objectives. As part of OBRA's EDC agreement with the Army, OBRA recommends that approximately 229,000 sqft of OARB floor area be available via nocost ground lease for a variety of job training/placement, homeless assistance, and workforce development uses (see Chapter 7 - Property Disposition and Conveyance Strategy). Furthermore, OBRA recommends that approximately 13 to 16 acres (total) of property be transferred via a Public Benefit Conveyance (PBC) to EBMUD (for expansion of its wastewater treatment facility) and the Painting and Decorating JATC (for an apprenticeship program).

For OARB properties west of Maritime Street, OBRA recommends that approximately 15 acres of property in the Bay Bridge isthmus be transferred at no-cost to the East Bay Regional Park District for development into a public access shoreline park. OBRA recommends that the remaining 160 acres (approximate) west of Maritime Street be conveyed to the Port of Oakland at no-cost for maritime terminal uses. This recommendation is based on a successful conclusion to on-going negotiations between OBRA and the Port on the use of this conveyance mechanism to secure this property from the Army

Although the Draft Final Reuse Plan marks the completion of a critical milestone in the reuse planning for OARB, It does not signify the completion of the reuse planning effort for the Base. Chapter 8 (Next Steps and Implementation Actions) outlines key timelines and critical "next steps" necessary to facilitate reuse and implementation planning for OARB. These steps include the completion of a variety of federal, state, and local processes, such as the preparation of environmental documents based on the Draft Final Reuse Plan and the successful negotiation of an EDC agreement with the Army, that are critical to the transfer and reuse of OARB. Per the joint Powers Agreement that established OBRA, OBRA will continue to be the entity responsible for future reuse planning efforts at OARB. However, the Oakland Redevelopment Agency will be the entity ultimately responsible for implementing the OARB Reuse Plan.

APPENDIX B

CORRESPONDENCE WITH FEDERAL AGENCIES

- **Correspondence with U.S. Fish and Wildlife Service**
- **Correspondence with National Marine Fisheries Service**
- **Correspondence with Bay Conservation and Development Commission**
- **Correspondence with State Historic Preservation Office**

- **Correspondence with U.S. Fish and Wildlife Service**

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
Sacramento Field Office
2800 Cottage Way, Room E-1803
Sacramento, California 95825-1846

In Reply Refer To:

In Reply Refer To: January 11, 1996
PPN 1833

Anne Cavazos
SCS Engineers
6761 Sierra Court, Suite D
Dublin, California 94568

Subject: Request for Concurrence of Oakland Army Base Suitability Classification for Fish and Wildlife Management, Oakland Army Base, Alameda County, Oakland, California

Dear Ms. Cavazos:

The United States Fish and Wildlife Service (Service), Sacramento Field Office, has reviewed Environmental Assessment No. 24-1405-77 (Oakland Army Base, 1977) and other pertinent documentation describing fish and wildlife resources at the Oakland Army Base (OARB). Upon review of this documentation, the Service has determined that the OARB does not have land or water areas that are suitable for a program of conservation and management of fish and wildlife. Therefore, the Service recommends that the OARB should be classified as Category III as described in Army Regulation 420-74.

If you have any questions regarding these comments, please contact Mark Littlefield (Wetlands Branch) at (916) 979-2113.

Sincerely yours,

Joel A. Medli
Field Supervisor
U.S. Department of the Interior Coordinator

cc: AES-Portland, OR

DEPARTMENT OF THE ARMY
MILITARY TRAFFIC MANAGEMENT COMMAND
HQ, WESTERN AREA
UNITED STATES ARMY GARRISON
OAKLAND ARMY BASE
OAKLAND, CALIFORNIA 94626-6000

Mr. Wayne White, Field Supervisor
United States Fish and Wildlife Service
Sacramento Field Office
2800 Cottage Way, Room W2605
Sacramento, California 95825-1846

SEP 30 1999

SUBJECT: BIOLOGICAL ASSESSMENT FOR USFWS, DISPOSAL AND REUSE OF OAKLAND ARMY BASE, ALAMEDA COUNTY, CALIFORNIA

Dear Mr. White:

This letter documents the United States Army's formal coordination under Section 7 of the Endangered Species Act (ESA) regarding the disposal and reuse of the Oakland Army Base (OARB), Alameda County, California. The Army plans to dispose of the OARB as excess property, by transfer to a Local Reuse Agency, the Oakland Base Reuse Authority (OBRA). OBRA has developed a plan for redevelopment and reuse of the installation (Reuse Plan). The Army has prepared an Environmental Impact Statement (EIS) to assess the potential effects of the disposal and reuse of OARB. As described in the EIS, the disposal (transfer) of OARB property is the Army's primary action. Reuse is a secondary action to be undertaken by the OBRA after disposal. As part of the EIS's analysis of the potential effects on the environment of the Army's action, the Army has prepared a Biological Assessment (BA). A copy of this BA is attached for your review. A separate BA has been prepared to assess potential effects on anadromous fish species, and has been submitted to the National Marine Fisheries Service. The attached BA describes field surveys done to inventory plant and wildlife species at OARB, and in the immediate vicinity, both by the Army for the EIS and by others for various state and federal agency actions in the OARB area. It assesses the potential for OARB lands to contain suitable habitat for species listed as endangered or threatened under the Endangered Species Act of 1973, as amended, and the potential effects of disposal and reuse on listed species.

Previous Coordination-Previous coordination between the Army and the Fish and Wildlife Service (USFWS) included correspondence regarding fish and wildlife management suitability classification, requests by the Army for species lists, and a field visit by USFWS staff from the Endangered Species Division. On January 14, 1996, Mr. Joel A. Medlin, Field Supervisor for the USFWS, wrote a letter of concurrence stating that "the OARB does not have land or water

areas that are suitable for a program of conservation or management of fish and wildlife" in conjunction with an Installation Natural Resources Management Plan for OARB (Reference PPN 833, letter to Anne Cavazos of SCS Engineers). In May of 1997, Foster Wheeler Environmental Corporation requested a list of endangered and threatened species that might occur in the OARB vicinity, in connection with environmental baseline studies leading to the EIS for disposal and reuse of OARB. In September of 1997, project staff provided Mr. Dan Buford of your office a description of the installation and color aerial photographs of the OARB sand spit area (see below). On December 17, 1998, Mr. Buford accompanied biologists of the US Army Corps of Engineers and Foster Wheeler Environmental Corporation on a field visit to OARB. On September 10, 1999, Mr. Harry Mossman of your office provided an updated species list.

Potential Habitat-Oakland Army Base consists of 422 acres on Oakland's Outer Harbor, 54 acres of which are submerged lands near OARB's three wharves, currently leased to the Port of Oakland. All but approximately 17 acres of the OARB is intensively developed and is covered in large buildings, parking lots, pavement, and landscaping. The only open land suitable for wildlife use on the installation is the undeveloped sand spit area at the western isthmus of the installation. This area was created of artificial fill to be part of the eastern terminus and toll plaza area for the San Francisco-Oakland Bay Bridge. Studies of listed species at OARB and the potential effects of disposal and reuse on such species have focused on this sand spit area and the submerged lands.

Listed Species-Initial surveys and screening for the project determined that the sand spit and open water areas adjacent to OARB could provide suitable areas for use by four listed species: 1) California least tern, 2) brown pelican, 3) western snowy plover, and 4) peregrine falcon. Suitable habitat is lacking for all of the other listed species of plants and animals, which prefer either undeveloped upland habitat or wetlands and tidal marshes, neither of which are present at OARB. The listed non-anadromous fish species are tidewater and estuarine species for which habitat is not present in the OARB submerged lands. Botanical surveys for the EIS as well as for the California Department of Transportation did not result in the identification of listed plant species on the sand spit.

Of these four listed species that may use OARB, the peregrine falcon was recently (August 25, 1999) delisted. Of the three remaining species, field surveys as well as a review of the extensive studies conducted for the Port of Oakland's Vision 2000 and Harbor Improvement programs, and the San Francisco-Oakland Bay Bridge East Span Seismic Safety project indicated that least terns and brown pelicans occasionally use the waters of the Outer Harbor south of the sand spit for foraging. Least terns were observed resting in the waters of the Outer Harbor during field surveys for the project. There is little suitable habitat for the western snowy plover.

California least terns are central-based foragers. They nest in large colonies and then forage in areas surrounding the nesting colony. There is a large least tern nesting colony located about two miles south of OARB at the former Alameda Naval Air Station. Extensive bird survey conducted by the Port of Oakland for the Vision 2000 and Harbor Improvement programs have shown that least terns use the Outer, Middle, and Inner Oakland harbor areas for foraging, as well as San Francisco Bay waters to the south and west of the Alameda colony. The areas south and west of the colony, however, are proven to be much more popular for least tern foraging than the Oakland Outer Harbor area near OARB. Only a small percentage of the tern sightings and diving attempts were observed in the Outer Harbor.

Brown pelicans frequent a large roosting area located along a breakwater south of Alameda but do not breed in San Francisco Bay. They use the Oakland harbor areas for foraging, but use the Outer Harbor area less intensively than areas nearer to the Alameda roost, according to intensive surveys done on behalf of the Port of Oakland programs. The Port studies did not observe the brown pelican in the portion of the Outer Harbor occupied by the OARB submerged lands. Brown pelicans may use areas such as the sand spit and its shoreline for resting, but have not been observed there during studies for the EIS, and these are clearly not important rest areas for them.

The sand spit does not provide suitable habitat for **western snowy plover**. This bird feeds on amphipods, insects, and sand crabs that live along beaches, and nests in foredunes or other sandy or unvegetated areas. The OARB sand spit contains only two very small (30-40 meter-wide) beaches and is covered in a dense growth of weeds. Western snowy plovers have not been observed there during field studies for the EIS and are not likely to use the area very frequently.

Summary-Based on the field studies conducted for the EIS, for the Port, and for other projects in the area, and a review of the literature, the Army finds that two listed species, the California least tern and brown pelican, are present near OARB. These species occasionally use the waters around OARB to forage for fish. They may occasionally use the sand spit land area for resting, though they have not been observed doing this. OARB lands, however, do not provide nesting or roosting habitat for either species, or for the Western snowy plover.

OBRA's Reuse Plan-The OBRA's Reuse Plan for OARB includes development of the sand spit area into a shoreline access park, with trails, lawn areas, and trees. Though the park would increase human activity in the sand spit area, it would not significantly alter the characteristics of this area that attract the relatively low level of current use by the least tern and brown pelican. The Reuse Plan includes a description of the Port of Oakland's Berth 21 project, a proposed fill of 25 acres of the Oakland Outer Harbor, one-third of which consists of OARB submerged lands.

This fill is currently part of the Port of Oakland's Capital Improvement Plan but is not yet funded. If approved and funded, it would not be implemented until approximately 2004. This fill could have an indirect effect on the brown pelican and least tern, since it could temporarily disrupt their feeding behavior by causing some disturbance to sediments in the Outer Harbor and would remove a small amount of potential, marginal foraging area. The siltation disturbance could be controlled or prevented, however, by use of construction methods selected to minimize the movement of silt within the water. Furthermore, the disruption of feeding behavior and the loss of foraging area would not be consequential, given the relatively low level of foraging use in this area by these species.

If the Port of Oakland goes forward with the Berth 21 fill project, the Port will be required at the time of implementation to obtain a permit from the US Army Corps of Engineers under Section 404 of the Clean Water Act. The Corps will coordinate with the USFWS regarding the ESA and the potential effects of this project on endangered and threatened species. If conditions at that time warrant it, they will enter into formal consultation and develop the necessary mitigation measures. The Berth 21 project is not likely, therefore, to cause a significant unmitigated adverse effect if it occurs. More specific conclusions about this aspect of Reuse Plan implementation and its potential effects on special status species are not possible without a more concrete project proposal from the Port.

As described in the BA, the reuse of the wharf areas of OARB is a small part of the expansion plans for the Port of Oakland. These expansion plans have been addressed in Biological Opinions issued by the USFWS. Therefore, it would be redundant to formally repeat a consultation for indirect impacts when those impacts had already been addressed as direct impacts of another project. We have summarized the impacts in our BA but do not propose to consider them in determining whether formal consultation is necessary.

Conclusions-The Army finds that the disposal and reuse of OARB would likely not involve significant modification or degradation of listed species' habitat, would not significantly impair the essential behavior patterns of listed species (including breeding, feeding, or shelter), and would not result in the take of listed species (50CFR 17.3). Therefore, we conclude that the disposal and reuse of OARB is not likely to adversely affect any listed species or critical habitat under the jurisdiction of the USFWS. Formal consultation under the ESA will therefore not be necessary. We reach this conclusion recognizing that the reuse activities of the Port, which have some potential for impact, have already been covered by BO's from the USFWS.

We request that you concur with our determination that the disposal and reuse of OARB are not likely to adversely affect any listed species or critical habitat. Thank you very much for your assistance in this matter.

Sincerely,

Roger Caswell
BRAC Environmental Coordinator

Attachment

cc: R. Koenigs (ACOE)
D. Davy (FW)

- **Correspondence with National Marine Fisheries Service**

DEPARTMENT OF THE ARMY

MILITARY TRAFFIC MANAGEMENT COMMAND
HQ, WESTERN AREA
UNITED STATES ARMY GARRISON
OAKLAND ARMY BASE
OAKLAND, CALIFORNIA 94626-6000

William T. Hogarth, Ph.D., Regional Administrator SEP 30 1999
National Marine Fisheries Service
Southwest Region
501 West Ocean Boulevard, Suite 4200
Long Beach, CA 90802-4213

SUBJECT: BIOLOGICAL ASSESSMENT FOR NMFS, DISPOSAL AND REUSE OF OAKLAND ARMY BASE, ALAMEDA COUNTY, CALIFORNIA

Dear Dr. Hogarth:

This letter documents the United States Army's formal coordination under Section 7 of the Endangered Species Act regarding the disposal and reuse of the Oakland Army Base (OARB), Alameda County, California. The Army plans to dispose of the OARB as excess property, by transfer to a Local Reuse Agency, the Oakland Base Reuse Authority (OBRA). The OBRA has developed a plan for redevelopment and reuse of the installation (Reuse Plan). The Army has prepared an Environmental Impact Statement (EIS) to assess the potential effects of the disposal and reuse of OARB. As described in the EIS, the disposal (transfer) of OARB property is the Army's primary action. Reuse is a secondary action to be undertaken by the OBRA after disposal. As part of the EIS's analysis of the potential effects on the environment of the Army's action, the Army has prepared a Biological Assessment (BA) for anadromous fish species. A copy of this BA is attached for your review. A separate BA has been prepared to assess potential effects on other listed species, and has been submitted to the US Fish and Wildlife Service. The attached BA assesses the potential for OARB lands to contain suitable habitat for species listed as endangered or threatened under the Endangered Species Act (ESA) of 1973, as amended, and the potential effects of disposal and reuse on listed species.

Potential Listed Species Habitat-Oakland Army Base consists of 422 acres on Oakland's Outer Harbor, 54 acres of which are submerged lands near OARB's wharves, currently leased to the Port of Oakland. The OARB submerged area is contiguous with the wharves and a shoreline that runs along the southern edge of a 17-acre sand spit that forms the southern margin of the San Francisco-Oakland Bay Bridge approach and toll plaza area. The sand spit area contains two small (30-40 meter-long) beaches, but otherwise consists entirely of large rock (rip rap). Water depth in the wharf area is approximately 40 feet, though the Port of Oakland currently plans to deepen the Outer Harbor channel to 50 feet to accommodate larger container ships.

Listed Species-A list of endangered and threatened species obtained from the US Fish and Wildlife Service and dated September 10, 1999, indicates that the following anadromous fish species are included on lists of species that might occur in the vicinity of OARB:

Winter-run chinook salmon (endangered) *(Onchorhynchus tshawytscha)*
Winter-run chinook salmon critical habitat (endangered)
Coho salmon (threatened) *(Onchorhynchus kisutch)*
Central California steelhead (threatened) *(Onchorhynchus mykiss)*
Central Valley spring-run chinook salmon (proposed) *(Onchorhynchus tshawytscha)*
Central Valley spring-run chinook salmon critical habitat (proposed)

The fall/late fall-run chinook salmon and their critical habitat are included on the September 10 list as species proposed for listing. Since that date, however, they have been reclassified as candidate species.

The chinook and coho salmon and the Central California steelhead are species that pass through San Francisco bay (Bay) on their way to and from spawning grounds in the Sacramento and San Joaquin river basins. Coho salmon seldom pause in the Bay on their way to the ocean and are not expected at or near OARB. Steelhead may be present in the project area on their way to spawn in the small streams entering the southern San Francisco Bay.

Chinook salmon of any race are relatively rare in the specific project area (Oakland Outer Harbor). Only two chinook salmon were captured during extensive surveys of the Oakland Inner, Middle, and Outer harbors for the Port of Oakland Vision 2000 and Harbor Improvement Programs. A possible third adult salmon (probably fall-run chinook) was observed in July for this same study, when a seal was seen feeding on a salmon near the Alameda Naval Air Station. Chinook salmon smolts spend an average of 4 to 10 days in the Bay on their migration from the Sacramento-San Joaquin Delta to the sea and do not often find their way to the Outer Harbor.

Chinook presmolts may spend portions of the winter, spring, or summer in the Bay. These fish prefer shallow water adjacent to tidal marshes, however, such as is found in the Crescent Marsh area on the north side of the San Francisco-Oakland Bay Bridge, opposite OARB. The latter area is within the critical habitat zone for chinook salmon, which includes waters of the Bay north of the Bay Bridge. The OARB, however, contains no critical habitat or suitable habitat for more than occasional or incidental use by these species.

OBRA's Reuse Plan-The OBRA's Reuse Plan for OARB includes development of the sand spit area along the western isthmus of the installation into a shoreline access park with trails,

lawn areas, and trees. This may have a minor beneficial effect on chinook salmon and steelhead by protecting shallow water habitat offshore from further development.

Also under the Reuse Plan, the Port of Oakland would obtain the OARB wharf area and continue to develop the port for international shipping. The OARB wharf area, however, is only a small part of the Port's expansion plans. Increased ship traffic that would result from the combination of all of the Port's improvement projects has the potential to affect steelhead and chinook salmon food sources by introducing alien organisms in ship ballast. This effect would be partially mitigated by improved ballasting in newer model, larger container ships, which would become more common in the Port once the channels are deepened. In addition, the Port, as part of their project, has proposed to implement rules requiring ballast exchange outside of San Francisco Bay to control this potential effect. The NMFS will address the ballast issue in their Biological Opinion for the Vision 2000 and Harbor Improvement programs and may formalize a requirement for the Port to implement such measures, particularly for the Port's project to add new berths to the Inner Harbor (Berths 55-58), which will increase shipping volume directly. With such mitigation in place, more and larger ships entering the harbor would not pose a significant danger to chinook salmon or steelhead as a result of Reuse Plan implementation.

The Reuse Plan includes a description of the Port of Oakland's Berth 21 Project, a proposed fill of 25 acres of the Oakland Outer Harbor, one-third of which consists of OARB submerged lands. This fill is currently part of the Port of Oakland's Capital Improvement Plan but is not yet funded. If approved and funded, it would not be implemented until approximately 2004. This fill could have an indirect effect on chinook salmon and steelhead, since it could temporarily disrupt their feeding behavior by disturbing sediments in the Outer Harbor. This disturbance would be minimal given the marginal nature of the habitat. The siltation disturbance could be controlled or prevented, however, by use of construction methods selected to minimize the movement of silt within the water. The fill would also remove some salmon and steelhead habitat, but again, this impact would be minimal since 40-foot-deep water is marginal habitat, at best.

If the Port of Oakland goes forward with the Berth 21 fill project, the Port will be required at the time of implementation to obtain a permit from the US Army Corps of Engineers under Section 404 of the Clean Water Act. The Corps will coordinate with the NMFS regarding the ESA and the potential effects of this project on endangered and threatened marine species. If conditions at that time warrant it, they will enter into formal consultation and develop the necessary mitigation measures. This action is not likely, therefore, to cause a significant unmitigated adverse effect if it occurs. More specific conclusions about this aspect of Reuse Plan implementation and its

potential effects on special status marine species are not possible without a more concrete project proposal from the Port.

As described in the BA, the reuse of the wharf areas of OARB is a small part of the expansion plans for the Port of Oakland. These expansion plans are being addressed in a Biological Opinion under preparation by the NMFS. Therefore, it would be redundant to formally repeat a consultation for indirect impacts when those impacts had already been addressed as direct impacts of another project., We have summarized the impacts in our BA but do not propose to consider them in determining whether formal consultation is necessary.

Conclusions-In developing our conclusions regarding impacts to listed species due to the disposal and reuse of OARB, several factors have been considered. First, the Outer Harbor at the Port of Oakland provides only marginal habitat for listed species. Second, a BO is currently being prepared by NMFS that addresses the primary impacts to listed species from the reuse of OARB as direct impacts, rather than indirect impacts. The same impacts do not need to be addressed as indirect impacts associated with property disposal at OARB. Finally, if the Port of Oakland elects to pursue the Berth 21 project at some time in the future, the need for a Section 7 consultation in conjunction with a 404 permit will have to be evaluated at that time and under the prevailing conditions. Based on the preceding considerations, the Army finds that the disposal and reuse of OARB would likely not involve modification or degradation of listed anadromous fish species' habitat or impairment of the essential behavior patterns of listed species. Therefore, we conclude that the disposal and reuse of OARB is not likely to adversely affect any listed species or critical habitat under the jurisdiction of the USFWS. Formal consultation under the ESA will therefore not be necessary.

We request that you concur with our determination that the disposal and reuse of OARB are not likely to adversely affect any listed species or critical habitat. Thank you very much for your assistance in this matter.

Sincerely,

Roger Caswell
Base Environmental Coordinator

Attachment

cc: R. Koenigs (ACOE)
D. Davy (FW)

- **Correspondence with Bay Conservation and Development Commission**

DEPARTMENT OF THE ARMY

MILITARY TRAFFIC MANAGEMENT COMMAND
HQ, WESTERN AREA
UNITED STATES ARMY GARRISON
OAKLAND ARMY BASE
OAKLAND, CALIFORNIA 94626-5780

Mr. Will Travis, Executive Director SEP 30 1999
San Francisco Bay Conservation and Development Commission
Thirty Van Ness Avenue, Suite 2011
San Francisco, CA 94102-6080

SUBJECT: FEDERAL CONSISTENCY DETERMINATION PURSUANT TO THE COASTAL ZONE MANAGEMENT ACT FOR THE DISPOSAL OF OAKLAND ARMY BASE

Dear Mr. Travis:

This federal consistency determination is submitted for the disposal of property comprising the Oakland Army Base, in compliance with the National Oceanic and Atmospheric Administration, Federal Consistency Regulations (15 CFR Part 930), implementing the Coastal Zone Management Act (CZMA) of 1972, Section 307 (Title 16, U.S.C. Section 1456).

Oakland Army Base (OARB) was recommended for closure on September 28, 1995, pursuant to the Defense Base Closure and Realignment Act of 1990, Public Law 101-510. It is required that the base be closed by July 13, 2001. The Army's primary action is the disposal of OARB, which entails transferring ownership primarily to the Oakland Base Reuse Authority (OBRA) while complying with applicable Federal laws and regulations governing the transfer of Federal property. Reuse of the base is a secondary action, resulting from disposal. The entity responsible for reuse of OARB is OBRA, the designated local reuse authority. Since the Army's primary action is simply a transfer of title, the Federal disposal action would not entail any changes to the physical environment, and therefore would have no potential to affect the adjacent coastal zone. All reuse activities occurring after Federal property transfer would be subject to applicable State and local permitting requirements, including those of the Bay Conservation and Development Commission (BCDC).

The following provides background and summary information pertaining to the disposal of Oakland Army Base property. Additional information, including maps of the project area, can be found in the attached copy of the Draft EIS for the Disposal and Reuse of Oakland Army Base.

Geographic Setting-OARB is located within the corporate limits of Oakland in Alameda County, California. The City of Oakland lies along the eastern shore of San Francisco Bay on a tideland waterfront, which is referred to as the Oakland Outer Harbor. The cities of Berkeley and Emeryville border Oakland on the north. The City of Piedmont is bounded by the city limits of Oakland, but is its own separate jurisdiction. Alameda faces Oakland across the narrow Inner Harbor channel to the southwest, and San Leandro borders on the southeast.

The Oakland Army Base comprises 422 acres (368 acres unsubmerged and 54 acres submerged) and is situated at the eastern terminus of the San Francisco-Oakland Bay Bridge (Bay Bridge) 7 miles east of San Francisco. It is bounded by the Bay Bridge toll plaza on the north, the Union Pacific 16th Street Rail Classification Yard and the neighborhood of West Oakland on the east, the Naval Fleet Industrial Supply Center (also referred to as the Naval Supply Center) to the south, and by the Port of Oakland Outer Harbor facilities to the west. The surrounding community is heavily industrialized. The City of Oakland's central business district is approximately 2 miles to the east. The nearest residential area is approximately 600 feet east of OARB along Pine Street, between 11th and Goss streets, and is physically separated from OARB by the Union Pacific Railyard and the I-880 freeway.

Project Description-The Proposed Action is the disposal of OARB property and facilities made available by its mandated closure. Through an established disposal process, the Oakland Army Base will

be transferred to the OBRA, with the exception of a 19.8-acre Reserve Enclave to be held by the Army and the possible exceptions of other recipients that qualify for public benefit conveyance. Transfer of the property is contingent upon the remediation of contamination at OARB, in compliance with applicable laws and regulations. Redevelopment is treated as a secondary action, resulting from disposal. OBRA has determined the generalized reuse of the former military installation, which is described in their Reuse Plan.

Property Disposal Summary-The proposed action consists of disposal of the 422-acre Oakland Army Base, with the exception of 19.8 acres, which the Army would retain as an Army Reserve Enclave. The Army Reserve Enclave is in two sections, located at the southeast end of the Base (in the Garrison District) and at the northeast end of the Base (Baldwin Yard). The 13 acres at Baldwin Yard are undeveloped and will provide the Army with a future site for equipment storage and training. The 6.8 acres in the Garrison area contain office buildings and will provide the Army with a future site for administrative offices and a Veterans Administration (VA) clinic and medical training area.

Approximately 54 acres of the Base property to be disposed are submerged tidelands. Therefore, the unsubmerged property to be disposed comprises approximately 348 acres (368 unsubmerged acres minus the 19.8-acre Army Reserve Enclave). This property includes approximately 17 acres of unimproved land (open space). The majority of the property has been developed and the Army's proposed action would include the disposal of buildings and other structures and associated infrastructure (e.g., sewage and water conveyance systems, other utilities, and access facilities such as roads, parking lots, and walkways) on the Base lands, as well as the land itself.

Environmental Documentation-The Army has prepared and attached to this letter the Draft Environmental Impact Statement (EIS) for the Disposal and Reuse of OARB. This document assesses the impacts of the disposal and reuse of Oakland Army Base. There are six reuse alternatives analyzed in the EIS. These alternatives are a Traditional Reuse and Conservation Plan (low-intensity reuse), a Maritime Redevelopment Plan (low-medium intensity reuse), an Adaptive Reuse Plan (medium intensity reuse), the OBRA Reuse Plan (medium-high intensity reuse), a High Density Business Park Plan (high intensity reuse), and a Maximum Density Traditional Office Plan (very high intensity reuse). A No Action alternative required under NEPA is also considered. The Draft EIS analyzes the environmental effects, including consistency with BCDC's coastal zone management program, associated with disposal and, at a programmatic level, with each of the reuse alternatives.

We acknowledge the Commission's long-standing preference for submittal of consistency determinations for their review. Therefore, in the spirit of cooperation, this determination is submitted. However, based on the above information and project description, it is the Army's determination that the disposal of property which comprised the former Oakland Army Base is an administrative title transfer action which will have no effect on the adjacent coastal zone, Furthermore, subsequent reuse of Oakland Army Base by future owners will be subject to the applicable requirements of the CZMA and the BCDC's permitting requirements. The Army will inform OBRA of their responsibility to coordinate their plans with the BCDC. On this basis, we expect the Commission to concur with our determination that the proposed action by the Army will be undertaken in a manner that will not affect the coastal zone and, hence, is consistent to the maximum extent practicable with the Commission's coastal zone program.

If you have any questions concerning this matter, please contact Mr. Robert Koenigs at (916) 557-6712. I may be reached at 510-466-2058

Sincerely,

Roger Caswell
BRAC Environmental Coordinator
Oakland Army Base

Enclosure
Copy to: Attached list

- **Correspondence with State Historic Preservation Office**

DEPARTMENT OF THE ARMY

U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO. CALIFORNIA 95814-2922

September 15, 1999

Environmental Resources Branch

Mr. Daniel Abeyta
Acting State Historic Preservation Officer
Office of Historic Preservation
Department of Parks and Recreation
P.O. Box 942896
Sacramento, CA 94296-0001

Dear Mr. Abeyta:

Oakland Army Base (OARB), Oakland, California, has been designated for closure pursuant to the Base Realignment and Closure (BRAC) Act. Although closure of OARB is required by July 13, 2001, all Army garrison operations are scheduled to cease by September 30, 1999. The base property will be placed into caretaker status under control of the Military Traffic Management Command (MTMC) until conveyance occurs. At this time, we request your comments concerning the disposal and transfer of the historic properties at OARB.

By letter of October 5, 1990 (FHWA900927X), your predecessor concurred in the Federal Highway Administration's findings that OARB would qualify for listing in the National Register of Historic Places under Criterion A for its role as part of the San Francisco Port of Embarkation during World War 11, 1941-1945. Twenty-four contributors and one noncontributor in three discontiguous segments were identified. Two of the segments were determined eligible for listing in the National Register. These segments are identified today as the Northwest Historic District (west of Maritime Street) and the Northeast Historic District (east of Maritime Street).

In response to the identification of historic properties on OARB by the California Department of Transportation (Caltrans), a Historic Preservation Plan (HPP) was developed in 1995, in conjunction with a Memorandum of Agreement (MOA) among the Advisory Council on Historic Preservation, State Historic Preservation Officer (SHPO), and MTMC, stipulating measures to be carried out for the management of the historic properties at OARB, A copy of the current MOA is enclosed for your convenience (enclosure 1). As stated in the HPP and in the MOA, the eligible properties were generally conceived as temporary structures built to satisfy the expanding operational, administrative, and support needs of OARB during WWII, and are, as such, strictly utilitarian in nature. In addition, the Land Use Plan for OARB categorized the historic structures as functionally and economically obsolescent and proposed

their eventual demolition. The 1995 MOA allowed for the demolition and alteration of the historic properties, without further consultation, upon completion of a Historic American Building Survey/Historic American Engineering Record (HABS/HAER) recordation of the property. With the exception of the Knight Rail Yard in the Northeast Historic District and the Maritime Wharves in the Northwest Historic District, the recordation was completed according to the guidance issued by the National Park Service (NPS) for a Level II documentation. The documentation, HAER No. CA-125, was submitted and accepted by NPS. Soon after the MOA was implemented, along with the HPP, OARB was placed on the 1995 BRAC list.

As part of the closure process, a reuse plan has been prepared by the Local Redevelopment Authority, that is, the Oakland Base Reuse Authority (OBRA). The Army's Environmental Impact Statement for the disposal and reuse of OARB is currently in its final draft stages and is expected to be finalized early next year. Current plans include OBRA as the grantee of the historic properties within the Northeast Historic District, while we expect the Port of Oakland to eventually receive those structures in the Northwest Historic District. OBRA, as part of its reuse development plan, intends to demolish the historic structures once transfer of the property from the Army to OBRA is complete. The Port of Oakland also intends to implement structural upgrades and redevelopment of contributing structures within the historic district.

The Army has continued to manage the historic properties at OARB in accordance with the stipulations in the pre-BRAC 1995 MOA. Since that time, we have consulted with you and your staff concerning OBRA's proposed plans to demolish contributing structures within the historic district and the Army's plans to lease these structures to OBRA in the interim of conveyance or transfer.

By letter dated July 14, 1997, MTMC, HQ, requested your concurrence that OBRA's plan to demolish the historic structures after base closure and disposal was in line with the stipulations of the 1995 MOA, that the 1995 MOA adequately mitigates for the demolition of these buildings, and that no further consultation by the OARB or the LRA is required. By letter dated August 28, 1997, your office concurred that the proposed demolition of the buildings by OBRA was in compliance with the appropriate stipulations of the 1995 MOA and that the "MOA adequately mitigated for the demolition of these buildings" (USA970723A). Copies of both letters are enclosures 2 and 3. In June of this year, we consulted with your staff historian, Clarence Caesar, regarding the interim leasing of the historic structures at OARB, to OBRA. At that time, we were assured that the stipulations in the 1995 MOA mitigated for any adverse effects that interim leasing may have on historic structures. However, all interim leasing agreements between the Army and lessee require the adherence to the stipulations in the 1995 MOA for the management and maintenance of the historic structures.

As described above, all historic structures at OARB have been adequately recorded to HAER standards with the exception of the Knight Rail Yard and the Maritime wharves. With respect to the Knight Rail Yard, we question the current integrity of the rail yard, which was affected by the Caltrans Cypress Freeway Reconstruction Project. The Cypress Freeway, which collapsed during the Loma Prieta earthquake in 1989, was realigned during reconstruction. As a result, new connector ramps between I-80 at the bridge and I-880 were constructed in the northeast comer of the OARB. The construction of these elevated roadways required demolition and reconstruction within the northern third of the Knight Rail Yard, creating a realignment of the original track formation. Of the 17 numbered tracks, the odd numbered tracks were reconnected to new ladder tracks, while even numbered tracks were abandoned in place. A new crossover track now provides the means for moving between the two track formations. A new Track 1 lead and warehouse tracks were also constructed to service the former container freight station. Incorporated into the construction work were 11 new No. 9, 136-pound railroad turnouts and one No. 8, 136-pound turnout. The new ladder, lead, and warehouse trackage were constructed an 136-pound rail. All new track was installed on new crushed rock ballast and geotextile fabric on a newly compacted grade. Although the south portion of Knight Rail Yard was not affected, the overall visual and structural integrity of the yard has changed considerably from its original layout. Enclosure 4 is a copy of Caltrans reconstruction plans, dated July 23, 1997, for Knight Rail Yard.

We currently possess 31 black and white, 9-inch by 9-inch aerial photos and a duplicate of color photos which create a pictorial collage of the entire OARB. These photos were taken in 1990 before reconstruction of the Cypress Freeway began. Based on the information we have now, we believe that these photos were taken as part of mitigation between your office and Caltrans for the anticipated adverse effects to OARB and the Knight Rail Yard. It is not clear to us, however, if these photos have been submitted to your office or to the NPS. If 'they have not, we propose to submit the photos to supplement the current HAER documentation for OARB.

With respect to the Maritime Wharves, we propose to supplement the current HAER documentation with additional photographs, thus bringing the documentation of the wharfs up to a Level II HABS/HAER documentation.

In May 1998, the MTMC produced a video documenting the history of OARB, entitled "A Job Well Done, Oakland Army Base 1941-1998." This 28-minute documentary includes archival footage of the inception and growth of OARB, as well as historical perspectives of OARB's important role in America's military missions. Local Bay Area news stations KRON-TV and KCRA-TV contributed to the video, which was narrated by KRON news anchor Pete Wilson. Copies of this documentary could be made available to local historical societies within the Bay Area.

Pursuant to the regulations (36 CFR Part 800) implementing Section 106 of the Preservation Act (NHPA) of 1966, as amended, we seek your comments on

our proposed actions for the disposal and reuse of the historic properties at OARB. Disposal and reuse of the historic districts at OARB will result in the same adverse effects which were determined under prior Army undertakings as described in this letter. With the exception of the wharves and Knight Rail Yard, the loss of these historic structures has been mitigated and accepted as a result of prior Section 106 consultations for Army undertakings. Therefore, once we have completed our proposed actions, we believe it would be acceptable to transfer the property out of Federal ownership to non-Federal entities without deed restrictions, allowing any grantee(s) of historic property to proceed with future redevelopment plans that may adversely affect the historic structures without further consultation with SHPO. In addition, we seek your comments with our determination 'that the Knight Rail Yard no longer qualifies as a contributing element to the Northeast Historic District.

Informal conversations with your staff indicate that a new MOA for our BRAC undertaking may be preferable to amending the current 1995 MOA. In addition, OBRA has expressed a desire to be included in future consultations and to be a concurring signatory on the MOA. It is anticipated that the Port of Oakland will also wish to participate. We propose that a new MOA, which would supercede the current one, be drafted stipulating the final supplemental recordation and documentation, as described in this letter, for the disposal and transfer of historic properties at OARB. If this is acceptable to you, we will prepare a draft MOA for your review. We are also not opposed to amending the 1995 MOA to reflect our disposal actions.

Your continued assistance and cooperation are appreciated. If you have any questions or require additional information, please contact Cherie Johnston-Waldear, Environmental Manager, at (916) 557-6847.

Sincerely,

Walter Yep
Chief, Planning Division

Enclosures

Copies, Furnished:

Col. John Compisi, C.O., Oakland Army Base, Oakland, CA
L. Keatinge, ACHP, 12136 W. Bayaud Avenue, Lakewood, CO
Roger Caswell, BEC, Oakland Army Base, Oakland, CA
Charles W. Foster, Executive Director, Port of Oakland

APPENDIX C - AIR QUALITY IMPACTS

- **Air Quality Impacts - Record of Non-Applicability Concerning the General Conformity Rule**

Record of Non-Applicability Concerning the General Conformity Rule (40 CFR Part 51)

The Oakland Army Base (OARB) served as Western Area Command Headquarters of the Military Traffic Management Command (MTMC) and housed the traffic management portion of the 1302nd Major Port Command. Based on recommendations of the 1995 Defense Base Closure and Realignment Commission, the Department of the Army proposes to dispose of the OARB property since it is excess to Army needs. This proposed disposal action requires that the Army complete a conformity review to determine whether the action is subject to the U.S. Environmental Protection Agency's General Conformity Rule (40 CFR Part 51).

OARB is located in San Francisco, Alameda County, California, an area that is in non-attainment status for ozone standards. The General Conformity Rule provides that actions proposed to occur within non-attainment areas must, unless otherwise exempt, be accompanied by a Conformity Determination. Among the recognized exemptions, however, are "transfers of ownership, interests, and titles in land, facilities, and real and personal properties, regardless of the form or method of the transfer" (40 CFR 51.853(c)(2)(xiv)). Because the Army's proposed disposal action will involve the sale or other title transfer of federal property, it has been determined that the action is exempt from the General Conformity Rule requirement to prepare a full Conformity Determination. Impacts on air quality that might occur from reuse of the property do not fall under the General Conformity Rule because they will result from actions taken by the new landowners. It will be the responsibility of these new landowners to meet any requirements for ensuring conformity with federal or state air quality plans.

Proponent: Military Traffic Management Command

Responsible Official: **[Signed]**_____ September 30,1999
MTMC Environmental Coordinator Date

APPENDIX D

BIOLOGICAL RESOURCES INFORMATION

- **Wildlife Species Observed at OARB**
- **Plant Species Observed at OARB**
- **Federal Endangered and Threatened Species that May Occur in the Project Area, from the U.S. Fish and Wildlife Database**
- **Special Status Species Known to Occur in the Oakland West Quadrangle, from the California Department of Fish and Game's Natural Diversity Database**

- **Wildlife Species Observed at OARB**

TABLE D-1. Wildlife Species Observed At Oakland Army Base During Field Surveys

Common name	Scientific names	Habitat found in*	Date Observed+
Birds			
Common loon	*Gavia immer*	OW	94 - 95
Pied-billed grebe	*Podilymbus podiceps*	OW	94 - 95, 96
Horned grebe	*Podiceps auritus*	OW	94 - 95, 97a
Eared grebe	*Podiceps nigricollis*	OW	94 - 95
Clark's grebe	*Aechmophorus occidentalis*	OW	94 - 95, 96, 97a, 97b
Western grebe	*Aechmophorus clarkii*	OW	94 - 95, 96, 97a, 97b, 97c
California brown pelican	*Pelecanus occidentalis californicus*	SH	94 - 95, 97b, 97c, 97d
Double-crested cormorant	*Phalacrocorax auritus*	OW	94 - 95, 97a, 97b, 97c, 97d
Great blue heron	*Ardea herodias*	SH	94 - 95, 96
Canada goose	*Branta canadensis*	S	96, 97a
Mallard	*Anas platyrhynchos*	F	97b
Greater scaup	*Aythya marila*	OW	97a
Lesser scaup	*Aythya affinis*	OW	94 - 95, 97b
Oldsquaw	*Clangula hyemalis*	OW	94-95
Surf scoter	*Melanitta perspicillata*	OW	94-95, 97b, 97c
White-winged scoter	*Melanitta fusca*	OW	94-95
Common goldeneye	*Bucephala clangula*	OW	94-95, 96
Bufflehead	*Bucephala albeola*	OW	94-95, 96
Ruddy duck	*Oxyura jamaicensis*	OW	94-95, 97a, 97b, 97c
Red-tailed hawk	*Buteo jamaicensis*	F	94-95, 97b
American kestrel	*Falco sparverius*	S	94-95, 96, 97a, 97b, 97c
American coot	*Fulica americana*	OW	96, 97a
Black-bellied plover	*Pluvialis squatarola*	S	94-95
Semipalmated plover	*Charadrius semipalmatus*	S	94-95, 96
Killdeer	*Charadrius vociferus*	S, L	94-95, 97a, 97b,
Black oystercatcher	*Haematopus bachmani*	SH	97a
Willet	*Catoptrophorus semipalmatus*	SH	94-95, 97a, 97c
Wandering tattler	*Heteroscelus incanus*	S	94-95
Spotted sandpiper	*Actitis macularia*	SH	94-95, 97a
Whimbrel	*Numenius phaeopus*	SH	94-95
Sanderling	*Calidris alba*	S	94-95
Western sandpiper	*Calidris mauri*	S	94-95
Least sandpiper	*Calidris minutilla*	S	94-95
Dunlin	*Calidris alpina*	SH, S	94-95, 97a
Herring gull	*Larus argentatus*	OW	97b, 97c
Western gull	*Larus occidentalis*	OW	94-95, 96, 97a, 97b, 97c
Forester's tern	*Sterna forsteri*	OW	94-95, 97b
California least tern	*Sterna antillarum browni*	OW	97b
Mourning dove	*Zenaida macroura*	L, W, S	94-95, 97a, 97b, 97c
Anna's hummingbird	*Calypte anna*	L	94-95, 97b
Belted kingfisher	*Ceryle alcyon*	S	94-95
Pacific-slope flycatcher	*Empidonax difficilis*	S	94-95
Black phoebe	*Sayornis nigricanus*	S	94-95
Barn swallow	*Hirundo rustica*	F	97c
Cliff swallow	*Hirundo pyrrhonota*	L	94-95, 97b
Western scrub jay	*Aphelocoma coerulescens*	L	97b
American crow	*Corvus brachyrhynchos*	F	97b
Common raven	*Corvus corax*	F	97b
Bushtit	*Psaltriparus minimus*	S	94-95
American robin	*Turdus migratorius*	L	94-95, 97b

TABLE D-1. Wildlife Species Observed At Oakland Army Base During Field Surveys			
Common name	**Scientific names**	**Habitat found in***	**Date Observed**[+]
Birds (cont.)			
Northern mockingbird	*Mimus polyglottos*	L	97b
Yellow-rumped warbler	*Dendroica coronata*	S	94-95
European starling	*Sturnus vulgaris*	L	94-95, 97b
California towhee	*Pipilo crissalis*	L	94-95, 97b
White-crowned sparrow	*Zonotrichia leucophrys*	L	94-95, 97a, 97b, 97c
Red-winged blackbird	*Agelaius phoeniceus*	W	94-95, 97a, 97b
Western meadowlark	*Sturnella neglecta*	L	94-95, 97b
House finch	*Carpodacus mexicanus*	L	94-95, 97b, 97c
American goldfinch (flock)	*Carduelis tristis*	L	97b
House sparrow	*Passer domesticus*	L	97b
Reptiles			
Western fence lizard	*Sceloporus occidentalis*	SH, S	97b, 97c
Mammals			
Botta's pocket gopher (mounds)	*Thomomys bottae*	S	97a, 97c
California sea lion	*Zalophys californianus*	OW	97a, 97b, 97c, 97d

*S - Land spit
F - Flying over
L - Landscape
W - Wetland outside NE boundary
SH – Shoreline
OW - Open water

[+]Dates observed
94 - 95: Caltrans biologist (DOT 1995)
96: EBS Surveys (2/6/96)
97a: EA survey (4/1/97)
97b: BA survey (6/14/97)
97c: BA survey (7/8/97)
97d: Incidental survey (7/27/97)

- **Plant Species Observed at OARB**

LIST OF PLANTS

A total of 82 plant taxa were recorded from the site. Nomenclatural authority is The Jepson Manual-Higher Plants of California (Hickman, ed. 1993). Names are arranged phylogenetically by higher group, in this case only angiosperms are present; these then divided among dicots (Magnoliopsida) and monocots (Liliopsida), and alphabetically within them by family, genus, species.

DATA FOR EACH TAXON ARE PROVIDED IN THE FOLLOWING ORDER AS AVAILABLE:
LINE ONE: Scientific name; common name

LINE TWO: Origin; plant habit; Calif. wetland status; CNPS list; CDFA pest rating.

MAGNOLIOPSIDA (DICOTS)
AIZOACEAE
Carpobrotus edulis..... sea fig
Intro; perennial
Tetragonia tetragonioides..... New Zealand Spinach
Intro; annual
APIACEAE
Foeniculum vulgare ..... fennel
Intro; perennial; FACU
ASTERACEAE
Ambrosia chamissonis..... beach bur
Native; perennial
Argyranthemum foeniculaceum ..... Canary Island marguerite
Intro; subshrub
Baccharis pilularis ..... coyote brush
Native; shrub
Carduus pycnocephalus ..... Italian thistle
Intro; annual; CDFA pest rating C
Centaurea melitensis ..... tocalote
Intro; annual
Centaurea solstitialis ..... yellow star-thistle
Intro; annual; CDFA pest rating C
Conyza bonariensis..... South American horseweed
Intro; annual
Conyza canadensis ..... Canada horseweed
Native; annual; FAC
Cotula australis ..... Australian brass-buttons
Intro; annual
Cotula coronopifolia ..... brass-buttons
Intro; perennial; FACW+
Crepis vesicaria ssp. taraxacifolia..... weedy hawksbeard
Intro; annual, biennial
Gnaphalium luteo-album ..... common cudweed
Intro; annual; FACW
Grindelia stricta var. angustifolia..... marsh gum-plant
Native; subshrub; OBL; CNPS List 4
Heterotheca grandiflora ..... telegraph weed
Native; annual, perennial
Hypochaeris radicata ..... rough cat's ear
Intro; perennial
Jaumea carnosa ..... marsh jaumea
Native; perennial; OBL
Lactuca saligna ..... narrow leaved wild-lettuce
Intro; annual
Lactuca serriola ..... prickly lettuce
Intro; annual; FAC
Lactuca virosa ..... poison wild-lettuce

Intro biennial

Picris echioides..... bristly ox-tongue
Intro; biennial; FAC*

Sonchus oleraceus ..... common sow thistle
Intro; annual

Urospermum picroides.....bristly tail-seed
Intro; annual, perennial

Xanthium strumarium.....cocklebur
Native; annual; FAC+

BRASSICACEAE

Brassica nigra.....black mustard
Intro; annual

Cakile maritima ..... European sea rocket
Intro; annual; FACW

Coronopus didymus..... lesser swine cross
Intro; annual, biennial

Hirschfeldia incana .....shortpod mustard
Intro; biennial, perennial

Lepidium latifolium ..... broad-leaved pepper-grass
Intro; perennial; FACW

Raphanus sativus.....wild radish
Intro; annual, biennial

CARYOPHYLLACEAE

Polycarpon tetraphyllum.....four-leaved allseed
Intro; annual

Spergularia marina.....salt sand-spurry
Native; annual; OBL

CHENOPODIACEAE

Atriplex semibaccata.....Australian saltbush
Intro; perennial, subshrub; FAC

Atriplex sp. (prob. subspicata).....saltbush
Native; annual

Bassia hyssopifolia.....five-horn bassia
Intro; annual; FAC

Salicornia virginica .....pickleweed
Native; perennial; OBL

Salsola soda.....alkali Russian thistle
Intro; annual

Salsola tragus.....tumbleweed
Intro; annual; FACU+

CONVOLVULACEAE

Convolvulus arvensis.....field bindweed
Intro; perennial; CDFA Pest Rating C

CUSCUTACEAE

Cuscuta salina ..... saltmarsh dodder
Native; annual

EUPHORBIACEAE

Chamaesyce prostrata.....prostrate spurge
Intro; annual

FABACEAE

Acacia longifolia.....golden wattle
Intro; shrub

Lotus corniculatus.....bird's foot trefoil
Intro; perennial; FAC

Lupinus succulentus ..... arroyo lupine
Native; annual

medicago polymorpha.....California burclover
Intro; annual

Melilotus albus ..... white sweetclover
Intro; annual, biennial; FACU+

Melilotus indicus..... sourclover
Intro; annual; FAC

Trifolium repens ..... white clover
Intro; perennial; FACU+

GERANIACEAE

Erodium cicutarium ..... red-stemmed filaree
Intro; annual

Geranium molle ..... dove's foot geranium
Intro; annual, biennial

MALVACEAE

Malva nicaeensis ..... bull mallow
Intro; annual, biennial

MYOPORACEAE

Myoporum laetum ..... ngaio tree
Intro shrub, tree

ONAGRACEAE

Epilobium brachycarpum ..... autumn willowweed
Native; annual; UPL

PAPAVERACEAE

Eschscholzia californica ..... California poppy
Native; annual, perennial

PLANTAGINACEAE

Plantago coronopus ..... cut-leaf plantain
Intro biennial; FAC

Plantago lanceolata ..... English plantain
Intro; perennial; FAC-

POLYGONACEAE

Polygonum arenastrum ..... common knotweed
Intro; annual, perennial; FAC

Rumex crispus..... curly dock
Intro; perennial; FACW-

Rumex salicifolius var. *transitorius* ..... willow dock
Native; perennial

PRIMULACEAE

Anagallis arvensis ..... scarlet pimpernel
Intro; annual; FAC

SALICACEAE

Salix exigua..... sandbar willow
Native; shrub; OBL

Salix lasiolepis .... arroyo willow
Native; shrub; FACW

URTICACEAE

Parietaria judaica ..... spreading pellitory
Intro; perennial

VALERIANACEAE

Centranthus ruber ..... Jupiter's beard
Intro; perennial

LILIOPSIDA

CYPERACEAE

Cyperus eragrostis ..... tall flatsedge
Native; perennial; FACW

Scirpus maritimus ..... prairie rush
Native; perennial; OBL POACEAE

POACEAE

Agrostic avenacea ..... pacific bentgrass
Intro; perennial; FACW

Avena barbata ..... slender wild oats
Intro; annual
Bromus diandrus ..... ripgut brome
Intro; annual
Bromus madritensis ssp. *rubens* ..... red brome
Intro; annual
Cortaderia sp ..... pampas grass
Intro; perennial
Cynodon dactylon ..... bermuda grass
Intro; Perennial; FAC
Distichlis spicata ..... saltgrass
Native; perennial; FACW
Ehrharta erecta ..... upright veldt grass
Intro; perennial
Lolium multiflorum ..... Italian rye-grass
Intro; annual
Nassella pulchra ..... purple needlegrass
Native; perennial
Panicum miliaceum ..... broom-corn millet
Intro; annual
Piptatherum miliaceum ..... smilo grass
Intro; perennial
Polypogon monspeliensis ..... beard grass
Intro; annual; FACW+
Vulpia myuros ..... rattail fescue
Intro; annual; FACU*

TYPHACEAE

Typha angustifolia ..... narrow-leaf cattail
Native; perennial; OBL

- **Federal Endangered and Threatened Species that May Occur in the Project Area, from the U.S. Fish and Wildlife Service Database**

Endangered and Threatened Species that May Occur in
or be Affected by Projects in the Selected Quads Listed Below
Reference File No. 1-1-99-SP-1959
September 10, 1999

QUAD: 466D OAKLAND WEST

Listed Species

Mammals

salt marsh harvest mouse, *Reithrodontomys raviventris* (E)

Birds

California brown pelican, *Pelecanus occidentalis californicus* (E)

California clapper rail, *Rallus longirostris obsoletus*

California least tern, *Sterna antillarum (=albifrons) browni* (E)

western snowy plover, *Charadrius alexandrinus nivosus* (T)

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

Alameda whipsnake, *Masticophis lateralis euryxanthus* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

tidewater goby, Eucyclogobius newberryi (E)

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)

winter run chinook salmon critical habitat, *Oncorhynchus tshawytscha* (E)

delta smelt, Hypomesus transpacificus (T)

coho salmon – central CA coast, *Oncorhynchus kisutch* (T)

Central California steelhead, *Oncorhynchus mykiss* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Proposed Species

Fish

Central Valley spring-run chinook crit. Hab., *Oncorhynchus tshawytscha* (PE)

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytsch*a (PE)

Central Valley fall/late fall-run chinook crit. Hab., *Oncorhynchus tshawytscha* (PT)

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (PT)

Plants

Santa Cruz tarplant, *Holocarpha macradenia* (PT)

Candidate Species

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Species of Concern

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plectorus) townsendii townsendii* (SC)

Berkeley kangaroo rat, *Dipodomys heermanni berkeleyensis* (SC) *

greater western mastiff-bat, *Eumops perotic californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysandodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Francisco dusky-footed woodrat, *Neotoma fusicpies annectens* (SC)

Alameda Island mole, *Scapanus latimanus parvus* (SC)

Salt marsh vargran shrew, *Sorex vagrans halicoetes* (SC)

Birds

American peregrine falcon, *Falco peregrinus anatum* (D)

Tricolored blankbird, *Agelalaus tricolor* (SC)

Bell's sage sparrrow, *Amphispiza belli belli* (SC)

Ferruginous hawk, *Buteo regalis* (SC)

Saltmarsh common yellowthroat, *Geothlypis trichas sinuosa* (SC)

Alamedi (South Bay) song sparrow, *Melospiza melodia pusillula* (SC)

Reptiles

northwestern pond turtle, *clemmys marmorata marmorata* (SC)

southwestern pond turtle, *clemmys marmorata pallida* (SC)

California horned lizard, *Phrynosoma coronatum frontale* (SC)

Amphibians

Foothill yellow-legged frog, *Rana boylii* (SC)

Fish

longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

Bridges' Coast Range shoulderband snail, *Helminthoglypta nickliniana bridgesi* (SC)

Ricksecker's water scavenger beetle, *Hydrochara rickseckeri* (SC)

San Francisco lacewing, *Nothochrysa californica* (SC)

Plants

Alkali milk-vetch, *Astragalus tener var. tener* (SC) *

San Francisco Bay spineflower, *chorizanthe cuspidata var. cuspidata* (SC) *

Northcoast bird's-beak, *Cordylanthus maritimus ssp. palustris* (SC *

Kellogg's (wedge-leaved) lorkelia, *Horkelia cuneata ssp. sericea* (SC) *

Adobe sanicle, *Sanicula maritima* (SC) *

KEY:

(E)	*Endangered*	Listed (in the Federal Register) as being in danger of extinction.
(T)	*Threatened*	Listed as likely to become endangered withing the foreseeable future.
(P)	*Proposed*	Officially proposed (in the Federal Register) for listing as endangered or threatened.
(C)	*Candidate*	Candidate to become a *proposed* species.
(SC)	*Species of Concern*	May be endangered or threatened. Not enough bioilogical information has been gathered to support listing at this time.
(D)	*Delisted*	Delisted. Status to be monitored for 5 years.
(*)	*Extirpated*	Possibily extirpated from this quad.
(**)	*Extinct*	Possibly extinct.
	Critical habitat	Area essential to the conservation of a species.

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ENCLOSURE A

Endangered and Threatened Species that May Occur in or be Affected by Projects in the Area of the Following California County or Counties

Reference File No. 1-1-99-SP-1959

September 10, 1999

ALAMEDA COUNTY

Listed Species

Mammals

salt marsh harvest mouse, *Reithrodontomys raviventris* (E)

San Joaquin kit fox, *Vulpes macrotis mutica* (E)

Birds

California brown pelican, *Pelecanus occidentalis californicus* (E)

California clapper rail, *Rallus longirostris obsoletus* (E)

California least tern, *Stema antillarum (=albifrons) browni* (E)

Aleutian Canada goose, *Branta canadensis leucopareia* (T)

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

Alameda whipsnake, *Masticophis lateralis euryxanthus* (T)

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

tidewater goby, *Eucyclogobius newbertyi* (E)

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)

winter-run chinook salmon crtical habitat, *Oncorhynchus tshawytscha* (E)

delta smelt, *Hypomesus transpacificus* (T)

Central California steelhead, *Oncorhynchus mykiss* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

Longhorn fairy shrimp, *Branchinecta longiantenna (E)*

vernal pool tadpole shrimp, *Lepidurus packardi (E)*

callippe silverspot butterfly, *Speyeria callippe callippe (E)*

vernal pool fairy shrimp, *Branchinecta lynchi (T)*

bay checkerspot butterfly, *Euphydryas editha bayensis (T)*

Plants

large-flowered fiddleneck, *Amsinckia grandiflora* (E)

Presidio clarkia, *Clarkia franciscana* (E)

palmate-bracted bird's-beak, *Cordylanthus palmatus* (E)

pallid manzanita (Alameda manzanita), *Arctostaphylos pallida* (T)

robust spineflower, *Chorizanthe robusta* (E) *

Contra Costa goldfields, *Lasthenia conjugens* (E)
California sea blite, *Suaeda califomica* (E) *
showy Indian clover, *Trifolium amoenum* (E) *

Proposed Species

Mammals

riparian (San Joaquin Valley) woodrat, *Neotome fuscipes riparia* (PE) *
riparian brush rabbit, *Sylvilagus bachmani riparius* (PE) *

Birds

mountain plover, *Charadrius montanus* (PT)

Fish

Central Valley spring-run chinook crit. hab., *Oncorhynchus tshawytscha* (PE)
Central Valley spring-run Chinook salmon, *Oncorhynchus tshawytscha* (PE)
Central Valley fall/late fall-run chinook crit hab, *Oncorhynchus tshawytscha* (PT)
Central Valley fallllate fall-run chinook salmon, *Oncorhynchus tshawytscha* (PT)

Plants

Santa Cruz tarplant, *Holocarpha macradenia* (PT)

Candidate Species

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Species of Concem

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)
greater western mastiff-bat, *Eumops perotis califomicus* (SC)
small-footed myotis bat, *Myotis ciliolabrum* (SC)
long-eared myotis bat, *Myotis evotis* (SC)
fringed myotis bat, *Myotis thysanodes* (SC)
long-legged myotis bat, *Myotis Volans* (SC)
Yuma myotis bat, *Myotis yumanensis* (SC)
San Francisco dusky-footed woodrat, *Neotoma fuscipes annectens* (SC)
San Joaquin pocket mouse, *Perognathus inomatus* (SC)
Alameda Island mole, *Scapanus latimanus parvus* (SC)
salt marsh vagrant shrew, *Sorox vagrans halicoetes* (SC)
Berkeley kangaroo rat, *Dipodomys heermanni berkeleyensis* (SC)

Birds

American peregrine falcon, *Falco peregrinus anatum* (D)
tricolored blackbird, *Agelaius tricolor* (SC)
grasshopper sparrow, *Ammodramus savannarum* (SC)
Bell's sage sparrow, *Amphispiza belli belli* (SC)

short-eared owl, *Asio* flammous (SC*)*
western burrowing owl, *Athene cunicularia hypugea* (SC)
American bittern, *Botaurus lentiginosus* (SC)
ferruginous hawk, *Buteo regales* (SC)
Costa's hummingbird, *Calypte costae* (SC)
Lawrence's goldfinch, *Carduelis lawrencei* (SC)
Vaux's swift, *Chaetura vauxi* (SC)
lark sparrow, *Chondestes grammecus* (SC)
olive-sided flycatcher, *Contopus cooperi* (SC)
hermit warbler, *Dendroica occidentalis* (SC)
white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)
Pacific-slope flycatcher, *Empidonax difficilis* (SC)
common loon, *Gavia immer* (SC)
saltmarsh common yellowthroat, *Geothlypis trichas sinuosa* (SC)
loggerhead shrike, *Lanius ludovicianus* (SC)
Lewis' woodpecker, *Melanerpes lewis* (SC)
Alameda (South Bay) song sparrow, *Melospiza melodia pusillula* (SC)
long-billed curlew, *Numenius americanus* (SC)
white-faced ibis, *Plegadis chihi* (SC)
rufous hummingbird, *Selasphorus rufus* (SC)
Allen's hummingbird, *Selasphorus sasin* (SC)
red-breasted sapsucker, *Sphyrapicus Tuber* (SC)
Bewick's wren, *Thryomanes bewickii* (SC)
California Thrasher, *Toxostoma redivivum* (SC)

Reptiles

Silvery legless lizard, *Anniella pulchra pulchra* (SC)
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
southwestern pond turtle, *Clemmys marmorata pallida* (SC)
San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)
California horned lizard, *Phrynosoma coronatum frontale* (SC)

Amphibians

foothill yellow-legged frog, *Rana boylii* (SC)
western spadefoot toad, *Scaphiopus hammondii* (SC)

Fish

green sturgeon, *Acipenser medirostris* (SC)
river lamprey, *Lampetra ayresi* (SC)
Pacific lamprey, *Lampetra tridentata* (SC)
longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

Opler's longhorn moth, *Adela oplerelia* (SC)

Bridges' Coast Range shoulderband snail, *Helminthoglypta nickliniana bridgesi* (SC)

Ricksecker's water scavenger beetle, *Hydrochara rickseckeri* (SC)

curved-foot hygrotus diving beetle, *Hygrotus curvipes* (SC)

California linderielia, *Linderiella occidentalis* (SC)

San Francisco lacewing, *Nothochrysa californica* (SC)

Plants

heartscale, *Atriplex cordulata* (SC)

brittlescale, *Atriplex depressa* (SC)

valley spearscale, *Atriplexjoaquiniana* (SC)

Mt. Hamilton thistle, *Cirsiurn fontinale var. carnpylon* (SC)

South Bay clarkia, *Clarkia concinna ssp. automixa* (SC)

hispid bird's-beak, *Cordylanthus mollis ssp. hispidus* (SC)

interior California larkspur, *Delphinium califomicum ssp. interius* (SC)

recurved larkspur, *Delphinium recurvatum* (SC)

diamond-petaled poppy, *Eschscholzia rhombipetala* (SC)

talus fritillary, *Fritillaria falcata* (SC)

fragrant fritillary, *Fritillaria liliacea* (SC)

Diablo helianthelia (=rock-rose), *Helianthella castanea* (SC)

pappose spikeweed, *Hemizonia parryi ssp. congdonii* (SC)

delta tule-pea, *Lathyrusjepsonii var. jepsonii* (SC)

Mason's lilaeopsis, *Lilaeopsis masonii* (SC)

little mousetail, *Myosurus minimus ssp. apus* (SC)

most beautiful (uncommon) jewelflower, *Streptanthus albidus ssp. peramoenus* (SC)

alkali milk-vetch, *Astragalus tener var. tener (SC)* *

San Francisco Bay spineflower, *Chorizanthe cuspidata var. cuspidata (SC)* *

northcoast bird's-beak, *Cordylanthus rnaritimus ssp. palustris (SC)* *

Kellogg's (wedge-leaved) horkelia, *Horkelia cuneata ssp. sericea* (SC) *

adobe sanicle, *Sanicula maritima (SC)* *

caper-fruited tropidocarpum, *Tropidocarpum capparideum* (SC) **

Mt. Diablo phacelia, *Phacelia phacelioides (SC)* ?

KEY:

(E) Endangered	Listed (in the Federal Register) as being in danger of extinction.
(T) Threatened	Listed as likely to become endangered within the foreseeable future.
(P) Proposed	Officially proposed (in the Federal Register) for listing as endangered or threatened.
(C) Candidate	Candidate to become a *proposed* species.
(SC) Species of Concem	Other species of concern to the Service.
(D) Delisted	Delisted. Status to be monitored for 5 years.
* *Extirpated*	Possibly extirpated from the area.
** *Extinct*	Possibly extinct
Critical Habitat	Area essential to the conservation of a species.

- **Special Status Species Known to Occur in the Oakland West Quadrangle, from the California Department of Fish and Game's Natural Diversity Database**

California Department of Fish and Game
Natural Diversity Data Base

List of Elements and Status by Element Code

Elm. Code	Scientific/Common Name	Federal/ State Status	Global/ State Rank	CNPS/ R-E-D	CDFG Status
ABNFD01020	PHALACROCORAX AURITUS (ROOKERY SITE) DOUBLE-CRESTED CORMORANT	None/ None	G5/ S3		SC
ABNME03041	LATERALLUS JAMAICENSIS COTURNICULUS CALIFORNIA BLACK RAIL	Species of Concern/ Threatened	G4T1/ S1		
ABNME05016	RALLUS LONGIROSTRIS OBSOLETUS CALIFORNIA CLAPPER RAIL	Endangered/ Endangered	G5T1/ S1		
ABNNM08103	STERNA ANTILLARUM BROWNI (NESTING COLONY) CALIFORNIA LEAST TERN	Endangered/ Endangered	G4T2T3 / S2S3		
AFCQN04010	EUCYCLOGOBIUS NEWBERRYI TIDEWATER GOBY	Endangered/ None	G2G3/ S2S3		SC
AMAFD03061	DIPODOMYS HEERMANNI BERKELEYENIS BERKELEY KANGAROO RAT	Species of Concern/ None	G5TH/ SH		
AMAFF02040	REITHRODONTOMYS RAVIVENTRIS SALT-MARSH HARVEST MOUSE	Endangered/ Endangered	G1G2/ S1S2		
CTT52110CA	NORTHERN COASTAL SALT MARSH	None/ None	G3/ S3.2		
IMGASJ7040	TRYONIA IMITATOR MIMIC TRYONIA (=CALIFORNIA BRACKISHWATER SNAIL)	Species of Concern/ None	G2G3/ S2S3		
PDAST4X020	HOLOCARPHA MACRADENIA SANTA CRUZ TARPLANT	Proposed Threatened/ Endangered	G1/ S1.1	1B/ 2-3-3	
PDFAB0F8R1	ASTRAGALUS TENER VAR TENER ALKALI MILK-VETCH	None/ None	G2T1/ S1.2	1B/ 3-2-3	
PDPGN04081	CHORIZANTHE CUSPIDATA VAR CUSPIDATA SAN FRANCISCO BAY SPINEFLOWER	Species of Concern/ None	G3T2/ S2.2	1B/ 2-2-3	

California Department of Fish and Game
Natural Diversity Data Base

List of Elements and Status by Element Code

Elm. Code	Scientific/Common Name	Federal/ State Status	Global/ State Rank	CNPS/ R-E-D	CDFG Status
PDPGN040Q2	CHORIZANTHE ROBUSTA VAR ROBUSTA ROBUST SPINEFLOWER	Endangered/ None	G2T1/ S1.1	1B/ 3-3-3	
PDROS0W043	HORKELIA CUNEATA SSP SERICEA KELLOGG'S HORKELIA	Species of Concern/ None	G4T1/ S1.1	1B/ 3-3-3	

California Department of Fish and Game
Natural Diversity Data Base

Location Summary Report

PHALACROCORAX AURITUS (ROOKERY SITE)
DOUBLE-CRESTED CORMORANT — Element Code: ABNFD01020

Status		NDDB Element Ranks		Other Lists	
Federal:	None	Global:	G5	CDFG Status:	SC
State:	None	State:	S3		

Occurrence No.	26	Map Index: 08984	Dates Last Seen
Occ Rank:	Unknown	Element:	1988-XX-XX
Origin:	Natural/Native occurrence	Site:	1988-XX-XX
Presence:	Presumed Extant		
Trend:	Unknown		
Quad Summary:	OAKLAND WEST (3712273/466D)*, SAN FRANCISCO NORTH (3712274/466C)		
County Summary:			
SNA Summary:	ALAMEDA, SAN FRANCISCO		
Owner/Manager:	CALTRANS		
Location:	OAKLAND-SAN FRANCISCO (BAY) BRIDGE, SAN FRANCISCO BAY.		
Lat/Long:	37ø48'37" / 122ø21'41"	Township:	99X
UTM:	Zone-10 N4184752 E556214	Range:	99X
Mapping Precision:	NON-SPECIFIC	Section:	UN Qtr XX
Symbol Type:	POINT	Meridian:	M
Radius:	1 mile	Elevation:	30 ft

California Department of Fish and Game
Natural Diversity Data Base

Location Summary Report

LATERALLUS JAMAICENSIS COTURNICULUS
CALIFORNIA BLACK RAIL — Element Code: ABNME03041

Status		NDDB Element Ranks		Other Lists	
Federal:	Species of Concern	Global:	G4T1	CDFG Status:	
State:	Threatened	State:	S1		

Occurrence No.	48	Map Index: 09164	
Occ Rank:	Unknown	Dates Last Seen — Element:	1922-08-23
Origin:	Natural/Native occurrence	Site:	1922-08-23
Presence:	Presumed Extant		
Trend:	Unknown		
Quad Summary:	OAKLAND WEST (3712273/466D)		
County Summary:	ALAMEDA		
SNA Summary:			
Owner/Manager:	UNKNOWN		
Location:	BERKELEY.		
Lat/Long:	37ø50'41" / 122ø17'50"	Township:	01S
UTM:	Zone-10 N4188614 E561834	Range:	04W
Mapping Precision:	NON-SPECIFIC	Section:	UN Qtr XX
Symbol Type:	POINT	Meridian:	M
Radius:	1 mile	Elevation:	

California Department of Fish and Game
Natural Diversity Data Base

Location Summary Report

RALLUS LONGIROSTRIS OBSOLETUS
CALIFORNIA CLAPPER RAIL — Element Code: ABNME05016

Status		NDDB Element Ranks		Other Lists	
Federal:	Endangered	Global:	G5T1	CDFG Status:	
State:	Endangered	State:	S1		

Occurrence No. 79 — Map Index: 09166 — Dates Last Seen

Occ Rank:	Good	Element:	1989-12-12
Origin:	Natural/Native occurrence	Site:	1989-12-12
Presence:	Presumed Extant		
Trend:	Unknown		
Quad Summary:	OAKLAND WEST (3712273/466D)		
County Summary:	ALAMEDA		
SNA Summary:	Emeryville Crescent Marsh		
Owner/Manager:	CALTRANS, PORT OF OAKLAND		
Location:	EMERYVILLE CRESCENT MARSH, JUST NORTH OF THE BAY BRIDGE APPROACH, EMERYVILLE.		
Lat/Long:	37ø49'54" / 122ø17'38"	Township:	01S
UTM:	Zone-10 N4187168 E562133	Range:	05W
Mapping Precision:	NON-SPECIFIC	Section:	UN Qtr XX
Symbol Type:	POLYGON	Meridian:	M
Area:	105.9 ac	Elevation:	1 ft

Location Summary Report

STERNA ANTILLARUM BROWNI (NESTING COLONY)
CALIFORNIA LEAST TERN — Element Code: ABNNM08103

Status		NDDB Element Ranks		Other Lists	
Federal:	Endangered	Global:	G4T2T3	CDFG Status:	
State:	Endangered	State:	S2S3		

Occurrence No.	1	Map Index: 09099	
Occ Rank:	Good	Dates Last Seen — Element:	1996-XX-XX
Origin:	Natural/Native occurrence	Site:	1996-XX-XX
Presence:	Presumed Extant		
Trend:	Increasing		
Quad Summary:	OAKLAND WEST (3712273/466D)		
County Summary:	ALAMEDA		
SNA Summary:			
Owner/Manager:	DOD-ALAMEDA NAVAL AIR STATION		
Location:	ALAMEDA NAVAL AIR STATION, SW OF OAKLAND.		
Lat/Long:	37ø47'00" / 122ø19'00"	Township:	99X
UTM:	Zone-10 N4181797 E560181	Range:	99X
Mapping Precision:	NON-SPECIFIC	Section:	UN Qtr XX
Symbol Type:	POLYGON	Meridian:	M
Area:	7.9 ac	Elevation:	10 ft

Location Summary Report

EUCYCLOGOBIUS NEWBERRYI
TIDEWATER GOBY — Element Code: AFCQN04010

Status	NDDB Element Ranks	Other Lists
Federal: Endangered	Global: G2G3	CDFG Status: SC
State: None	State: S2S3	

Occurrence No. 21 — Map Index: 09161 — Dates Last Seen
Occ Rank: None — Element: 1950-XX-XX
Origin: Natural/Native occurrence — Site: 1984-XX-XX
Presence: Extirpated
Trend: Unknown
Quad Summary: OAKLAND WEST (3712273/466D)
County Summary: ALAMEDA
SNA Summary:
Owner/Manager: CITY OF BERKELEY
Location: BERKELEY AQUATIC PARK, WEST EDGE OF BERKELEY ADJACENT TO SAN FRANCISCO BAY.
Lat/Long: 37ø51'29" / 122ø17'53" — Township: 01S
UTM: Zone-10 N4190083 E561745 — Range: 04W
Mapping Precision: NON-SPECIFIC — Section: 10 Qtr XX
Symbol Type: POLYGON — Meridian: M
Area: 32.8 ac — Elevation: 10 ft

Occurrence No. 89 — Map Index: 09262 — Dates Last Seen
Occ Rank: Unknown — Element: 19XX-XX-XX
Origin: Natural/Native occurrence — Site: 19XX-XX-XX
Presence: Presumed Extant
Trend: Unknown
Quad Summary: OAKLAND WEST (3712273/466D)*, OAKLAND EAST (3712272/465C)
County Summary: ALAMEDA
SNA Summary:
Owner/Manager: UNKNOWN
Location: LAKE MERRITT, OAKLAND.
Lat/Long: 37ø48'17" / 122ø15'19" — Township: 01S
UTM: Zone-10 N4184215 E565565 — Range: 03W
Mapping Precision: SPECIFIC — Section: UN Qtr XX
Symbol Type: POLYGON — Meridian: M
Area: 168.8 ac — Elevation: 5 ft

California Department of Fish and Game
Natural Diversity Data Base

Location Summary Report

DIPODOMYS HEERMANNI BERKELEYENIS
BERKELEY KANGAROO RAT — Element Code: AMAFD03061

Status		NDDB Element Ranks		Other Lists	
Federal:	Species of Concern	Global:	G5TH	CDFG Status:	
State:	None	State:	SH		

Occurrence No.	1	Map Index: 09285	——Dates Last Seen——
Occ Rank:	Unknown		Element: 1918-10-06
Origin:	Natural/Native occurrence		Site: 1918-10-06
Presence:	Presumed Extant		
Trend:	Unknown		
Quad Summary:	OAKLAND EAST (3712272/465C)*, OAKLAND WEST (3712273/466D)		
County Summary:	ALAMEDA		
SNA Summary:			
Owner/Manager:	UNKNOWN		
Location:	TOP OF DWIGHT WAY HILL, BERKELEY.		
	Lat/Long: 37ø52'02" / 122ø14'49"		Township: 01S
	UTM: Zone-10 N4191144 E566237		Range: 03W
	Mapping Precision: NON-SPECIFIC		Section: UN Qtr XX
	Symbol Type: POINT		Meridian: M
	Radius: 1/5 mile		Elevation: 1100 ft

Location Summary Report

REITHRODONTOMYS RAVIVENTRIS
SALT-MARSH HARVEST MOUSE — Element Code: AMAFF02040

Status		NDDB Element Ranks		Other Lists	
Federal:	Endangered	Global:	G1G2	CDFG Status:	
State:	Endangered	State:	S1S2		

Occurrence No.	102	Map Index: 09168	Dates Last Seen
Occ Rank:	Unknown		Element: 1982-02-27
Origin:	Natural/Native occurrence		Site: 1986-06-XX
Presence:	Presumed Extant		
Trend:	Unknown		
Quad Summary:	OAKLAND WEST (3712273/466D)		
County Summary:	ALAMEDA		
SNA Summary:	Emeryville Crescent Marsh		
Owner/Manager:	PVT-SANTA FE PACIFIC REALTY		
Location:	EMERYVILLE CRESCENT MARSH, ADJACENT TO OAKLAND STORM DRAIN AND BAY BRIDGE APPROACH.		
	Lat/Long: 37ø49'52" / 122ø17'46"		Township: 01S
	UTM: Zone-10 N4187104 E561943		Range: 05W
	Mapping Precision: NON-SPECIFIC		Section: UN Qtr XX
	Symbol Type: POINT		Meridian: M
	Radius: 1/5 mile		Elevation: 3 ft

Location Summary Report

NORTHERN COASTAL SALT MARSH

Element Code: CTT52110CA

Status		NDDB Element Ranks		Other Lists
Federal:	None	Global:	G3	
State:	None	State:	S3.2	

Occurrence No.	19	Map Index: 09166	
Occ Rank:	Unknown		Dates Last Seen
Origin:	Natural/Native occurrence		Element: 1977-06-XX
Presence:	Presumed Extant		Site: 1977-06-XX
Trend:	Unknown		
Quad Summary:	OAKLAND WEST (3712273/466D)		
County Summary:	ALAMEDA		
SNA Summary:	Emeryville Crescent Marsh		
Owner/Manager:	UNKNOWN		
Location:	EMERYVILLE, E SAN FRANCISCO BAY.		
	Lat/Long: 37ø49'54" / 122ø17'38"		Township: 01S
	UTM: Zone-10 N4187168 E562133		Range: 05W
	Mapping Precision: NON-SPECIFIC		Section: UN Qtr XX
	Symbol Type: POLYGON		Meridian: M
	Area: 105.9 ac		Elevation: 1 ft

California Department of Fish and Game
Natural Diversity Data Base

Location Summary Report

TRYONIA IMITATOR
MIMIC TRYONIA (=CALIFORNIA BRACKISHWATER SNAIL) Element Code: IMGASJ7040

Status		NDDB Element Ranks		Other Lists	
Federal:	Species of Concern	Global:	G2G3	CDFG Status:	
State:	None	State:	S2S3		

Occurrence No.	27	Map Index: 09253	——Dates Last Seen——
Occ Rank:	None		Element: XXXX-XX-XX
Origin:	Natural/Native occurrence		Site: XXXX-XX-XX
Presence:	Extirpated		
Trend:	Unknown		
Quad Summary:	OAKLAND WEST (3712273/466D)*, OAKLAND EAST (3712272/465C)		
County Summary:	ALAMEDA		
SNA Summary:			
Owner/Manager:	PVT		
Location:	NEAR OAKLAND (LAKE MERRITT)		
Lat/Long:	37ø47'51" / 122ø15'31"	Township:	99X
UTM:	Zone-10 N4183401 E565272	Range:	99X
Mapping Precision:	NON-SPECIFIC	Section:	UN Qtr XX
Symbol Type:	POINT	Meridian:	M
Radius:	1 mile	Elevation:	

Location Summary Report

HOLOCARPHA MACRADENIA
SANTA CRUZ TARPLANT — Element Code: PDAST4X020

Status	NDDB Element Ranks	Other Lists
Federal: Proposed Threatened	Global: G1	CNPS List: 1B
State: Endangered	State: S1.1	R-E-D Code: 2-3-3

Occurrence No. 14 — Map Index: 09212 — Dates Last Seen
Occ Rank: None — Element: 1903-XX-XX
Origin: Natural/Native occurrence — Site: 1976-XX-XX
Presence: Extirpated
Trend: Unknown
Quad Summary: OAKLAND WEST (3712273/466D)
County Summary: ALAMEDA
SNA Summary:
Owner/Manager: UNKNOWN
Location: FIELD AT ADELINE STATION, NEAR BERKELEY.
Lat/Long: 37ø49'48" / 122ø16'42" — Township: 01S
UTM: Zone-10 N4186993 E563508 — Range: 04W
Mapping Precision: NON-SPECIFIC — Section: UN Qtr XX
Symbol Type: POINT — Meridian: M
Radius: 1/5 mile — Elevation: 100 ft

Occurrence No. 20 — Map Index: 09164 — Dates Last Seen
Occ Rank: None — Element: 1916-06-26
Origin: Natural/Native occurrence — Site: 1916-06-26
Presence: Extirpated
Trend: Unknown
Quad Summary: OAKLAND WEST (3712273/466D)
County Summary: ALAMEDA
SNA Summary:
Owner/Manager: UNKNOWN
Location: BERKELEY, NEAR SAN FRANCISCO BAY.
Lat/Long: 37ø50'41" / 122ø17'50" — Township: 01S
UTM: Zone-10 N4188614 E561834 — Range: 04W
Mapping Precision: NON-SPECIFIC — Section: UN Qtr XX
Symbol Type: POINT — Meridian: M
Radius: 1 mile — Elevation:

California Department of Fish and Game
Natural Diversity Data Base

Location Summary Report

ASTRAGALUS TENER VAR TENER
ALKALI MILK-VETCH Element Code: PDFAB0F8R1

Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G2T1	CNPS List: 1B
State: None	State: S1.2	R-E-D Code: 3-2-3

Occurrence No. 17 Map Index: 20604 ——Dates Last Seen——
Occ Rank: Unknown Element: 1895-05-14
Origin: Natural/Native occurrence Site: 1895-05-14
Presence: Possibly Extirpated
Trend: Unknown
Quad Summary: OAKLAND EAST (3712272/465C)*, SAN LEANDRO (3712262/447B), OAKLAND WEST (3712273/466D)
County Summary:
SNA Summary: ALAMEDA
Owner/Manager: UNKNOWN
Location: ALAMEDA.
Lat/Long: 37ø45'51" / 122ø14'26" Township: 02S
UTM: Zone-10 N4179718 E566888 Range: 03W
Mapping Precision: NON-SPECIFIC Section: UN Qtr XX
Symbol Type: POINT Meridian: M
Radius: 1 mile Elevation: 20 ft

Occurrence No. 18 Map Index: 24696 ——Dates Last Seen——
Occ Rank: None Element: 1882-05-08
Origin: Natural/Native occurrence Site: 1882-05-08
Presence: Possibly Extirpated
Trend: Unknown
Quad Summary: OAKLAND WEST (3712273/466D)
County Summary: ALAMEDA
SNA Summary:
Owner/Manager: UNKNOWN
Location: OAKLAND, WATTS STREET STATION.
Lat/Long: 37ø49'53" / 122ø16'53" Township: 99X
UTM: Zone-10 N4187155 E563229 Range: 99X
Mapping Precision: NON-SPECIFIC Section: UN Qtr XX
Symbol Type: POINT Meridian: M
Radius: 1/5 mile Elevation: 30 ft

Occurrence No. 45 Map Index: 26024 ——Dates Last Seen——
Occ Rank: Unknown Element: 1888-04-26
Origin: Natural/Native occurrence Site: 1888-04-26
Presence: Possibly Extirpated
Trend: Unknown
Quad Summary: OAKLAND WEST (3712273/466D)
County Summary: ALAMEDA
SNA Summary:
Owner/Manager: UNKNOWN
Location: 13TH STREET STATION, WEST OAKLAND.
Lat/Long: 37ø48'48" / 122ø17'52" Township: 99X
UTM: Zone-10 N4185116 E561814 Range: 99X
Mapping Precision: NON-SPECIFIC Section: UN Qtr XX
Symbol Type: POINT Meridian: M
Radius: 1/5 mile Elevation: 15 ft

California Department of Fish and Game
Natural Diversity Data Base

Location Summary Report

CHORIZANTHE CUSPIDATA VAR CUSPIDATA
SAN FRANCISCO BAY SPINEFLOWER — Element Code: PDPGN04081

Status	NDDB Element Ranks	Other Lists
Federal: Species of Concern	Global: G3T2	CNPS List: 1B
State: None	State: S2.2	R-E-D Code: 2-2-3

Occurrence No. 16 — Map Index: 34558 — Dates Last Seen
Occ Rank: Unknown — Element: 1881-XX-XX
Origin: Natural/Native occurrence — Site: 1881-XX-XX
Presence: Presumed Extant
Trend: Unknown
Quad Summary: OAKLAND WEST (3712273/466D)
County Summary: ALAMEDA
SNA Summary:
Owner/Manager: UNKNOWN
Location: NEAR OAKLAND.
Lat/Long: 37ø48'47" / 122ø16'54" — Township: 99X
UTM: Zone-10 N4185102 E563227 — Range: 99X
Mapping Precision: NON-SPECIFIC — Section: UN Qtr XX
Symbol Type: POINT — Meridian: M
Radius: 1 mile — Elevation: 20 ft

Location Summary Report

CHORIZANTHE ROBUSTA VAR ROBUSTA
ROBUST SPINEFLOWER — Element Code: PDPGN040Q2

Status	NDDB Element Ranks	Other Lists
Federal: Endangered	Global: G2T1	CNPS List: 1B
State: None	State: S1.1	R-E-D Code: 3-3-3

Occurrence No. 1 — Map Index: 20604 — Dates Last Seen
Occ Rank: Unknown — Element: 1891-05-XX
Origin: Natural/Native occurrence — Site: 1891-05-XX
Presence: Possibly Extirpated
Trend: Unknown
Quad Summary: OAKLAND EAST (3712272/465C)*, SAN LEANDRO (3712262/447B), OAKLAND WEST (3712273/466D)
County Summary:
SNA Summary: ALAMEDA
Owner/Manager: UNKNOWN
Location: ALAMEDA.
Lat/Long: 37ø45'51" / 122ø14'26" — Township: 02S
UTM: Zone-10 N4179718 E566888 — Range: 03W
Mapping Precision: NON-SPECIFIC — Section: UN Qtr XX
Symbol Type: POINT — Meridian: M
Radius: 1 mile — Elevation: 20 ft

Location Summary Report

HORKELIA CUNEATA SSP SERICEA
KELLOGG'S HORKELIA — Element Code: PDROS0W043

Status		NDDB Element Ranks		Other Lists	
Federal:	Species of Concern	Global:	G4T1	CNPS List:	1B
State:	None	State:	S1.1	R-E-D Code:	3-3-3

Occurrence No. 34 — Map Index: 20604
Occ Rank: Unknown — Element: 1894-XX-XX
Origin: Natural/Native occurrence — Site: 198X-XX-XX
Presence: Possibly Extirpated
Trend: Unknown
Quad Summary: OAKLAND EAST (3712272/465C)*, SAN LEANDRO (3712262/447B), OAKLAND WEST (3712273/466D)
County Summary:
SNA Summary: ALAMEDA
Owner/Manager: UNKNOWN
Location: ALAMEDA.
Lat/Long: 37ø45'51" / 122ø14'26" — Township: 02S
UTM: Zone-10 N4179718 E566888 — Range: 03W
Mapping Precision: NON-SPECIFIC — Section: UN Qtr XX
Symbol Type: POINT — Meridian: M
Radius: 1 mile — Elevation: 20 ft

Occurrence No. 35 — Map Index: 34558
Occ Rank: Unknown — Element: 1863-XX-XX
Origin: Natural/Native occurrence — Site: 198X-XX-XX
Presence: Possibly Extirpated
Trend: Unknown
Quad Summary: OAKLAND WEST (3712273/466D)
County Summary: ALAMEDA
SNA Summary:
Owner/Manager: UNKNOWN
Location: OAKLAND.
Lat/Long: 37ø48'47" / 122ø16'54" — Township: 99X
UTM: Zone-10 N4185102 E563227 — Range: 99X
Mapping Precision: NON-SPECIFIC — Section: UN Qtr XX
Symbol Type: POINT — Meridian: M
Radius: 1 mile — Elevation: 20 ft

APPENDIX E - HISTORIC PRESERVATION PLAN

- **Memorandum of Agreement for Historic Properties at OARB**
- **OARB Historic Preservation Plan Maintenance Guidelines**

- **Memorandum of Agreement for Historic Properties at OARB**

Advisory Council On Historic Preservation

The Old Post Office Building
1100 Pennsylvania Avenue, NW, #809
Washington, DC 20004

Reply to: 730 Simms Street, #401
Golden, Colorado 80401

September 5, 1995

H.S. Leite, Staff Engineer
Office of Staff Engineer
Military Traffic Management Command
HQ, Western Area, Oakland Army Base
Oakland, CA 94626-5000

REF: *Memorandum of Agreement regarding the implementation of future development plans at the Oakland Army Base, CA*

Dear Mr. Leite:

The enclosed Memorandum of Agreement regarding the implementation of future development plans at the Oakland Army Base has been executed by the Council. This action constitutes the comments of the Council required by Section 106 of the National Historic Preservation Act and the Council's regulations. Please send a copy of the signed Agreement to the California State Historic Preservation Officer, Oakland Heritage Alliance, and the Oakland Landmarks Preservation Advisory Board.

The Council appreciates your cooperation in reaching a satisfactory resolution of this matter.

Sincerely,

for Claudia Nissley
Director, Western Office
of Review

Enclosure

MEMORANDUM OF AGREEMENT
SUBMITTED TO THE ADVISORY COUNCIL ON HISTORIC
PRESERVATION PURSUANT TO 36 CFR § 800.6(a)

WHEREAS, Military Traffic Management Command, Western Area (MTMCWA), under the stipulations of the 1986 Programmatic Memorandum of Agreement among the United States Department of Defense, the Advisory Council on Historic Preservation and the National Conference of State Historic Preservation officers, has completed an inventory and evaluation of temporary World War II wood structures; and

WHEREAS, MTMCWA has determined that implementation of the future development plans for Oakland Army Base may have an effect upon the properties included in the Oakland Army Base Historic Districts eligible for inclusion in the National Register of Historic Places, and has consulted with the California State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation (Council) pursuant to 36 CFR Part 800, regulations implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470f) and Section 110(f) of the same Act (16 U.S.C. 470h- 2(f)); and

WHEREAS, MTMCWA operates, manages, administers and maintains the Historic Districts on Oakland Army Base (OARB), California that are eligible for listing on the National Register of Historic Places (NRHP); and

WHEREAS, the eligible properties were generally conceived as temporary structures built to satisfy the expanding operational, administrative, and support needs of the Installation during World War II, and are, as such, strictly utilitarian in nature; and

WHEREAS, MTMCWA proposes to carry out operations and maintenance activities on OARB in accordance with the future development plans created to meet its mission objectives; and

WHEREAS, the Oakland Heritage Alliance and the Oakland Landmarks Preservation Advisory Board have been consulted, and

NOW, THEREFORE, MTMCWA, the California SHPO, and the Council agree that MTMCWA shall have fulfilled the requirements of Sections 106 and 110 of the NHPA with respect to the management of the properties in the eligible Historic Districts on OARB in accordance with the following stipulations:

STIPULATIONS

MTMCWA will ensure that the following measures are carried out:

1. **HAER Recordation.** The MTMCWA will contact the Office of Register Programs, National Park Service, Western Region, Historic American Engineering

Record (HAER) to determine what documentation is required. MTMCWA ensures that unless otherwise agreed to by the National Park Service, each of the eligible buildings/building types in the Historic Districts is to be recorded to Level II standards provided in the "Secretary of the Interior's Standards and Guidelines for Architectural and Engineering Documentation." Documentation for each eligible building/building type consists of:

a. An ***Historic Property Inventory*** providing a written record of each building/building type, along with a photographic register; and

b. ***As-built*** drawings for the eligible buildings/building types, or if unavailable, suitable other graphic documentation.

2. **Historic Preservation Plan (HPP).** An HPP for OARB is enacted as outlined in Army Regulation 420-40, dated 15 April 1984. This HPP includes the following three sections:

a. An ***introduction*** explaining the overall organization of the HPP, its objectives, and the actions required to implement the objectives; and

b. An ***overview*** section reporting the cultural resource criteria for OARB. These criteria include the historical development on the Installation: social, cultural, and economic impacts of OARB on the region and nation; and descriptions of the historic districts and the buildings/facilities eligible for listing on the NRHP; and

c. A ***Maintenance Guidelines*** outlining strategies for the inspection, repair, and maintenance of the eligible historic properties. The Maintenance Guidelines include a management plan with maintenance and repair schedules, and Standard Operating Procedures for their implementation.

3. The Historic American Engineering Record is final upon approval of MTMCWA and the National Park Service, and with the concurrence of the California SHPO.

4. The Historic Preservation Plan is final upon approval of MTMCWA, Corps of Engineers Sacramento District, and with the concurrence of the California SHPO.

5. MTMCWA shall ensure that a biannual report on all activities carried out pursuant to this Agreement is provided to SHP0, the Council, and, upon request, to other interested parties.

6. If any party to this Agreement determines that its terms cannot be met or believes an amendment or addendum necessary, that party is to immediately request the consulting parties to consider an amendment or addendum to the Agreement. Such amendment or addendum is to be executed in the same manner as the original Agreement. No amendment or addendum to this Agreement is to go into effect without written concurrence of all consulting parties. The Historic Preservation Plan can be amended by MTMCWA without amending this Agreement.

7. Any party to this Agreement may terminate it by providing thirty (30) days notice to the other parties, provided that the parties will consult during the period prior to termination to seek agreement on amendments or other actions that would avoid termination. In the event of termination, MTMCWA is to comply with 36 CFR section 800.4 through 800.6 with regard to individual undertakings covered by this Agreement.

8. Should the SHPO or the Council object within thirty (30) days to any actions pursuant to this Agreement, MTMCWA shall consult with the objecting party to resolve the objection. If MTMCWA determines that the objection cannot be resolved, MTMCWA shall forward all documentation relevant to the dispute to the Council. Within 30 days after receipt of all pertinent documentation, the Council will either:

a. provide MTMCWA with recommendations, which MTMCWA will take into account in reaching a final decision regarding the dispute; or

b. notify MTMCWA that it will comment pursuant to 36 CFR § 800.6(b), and proceed to comment. Any Council comment provided in response to such a request will be taken into account by MTMCWA in accordance with 36 CFR § 800.6(c)(2) with reference to the subject of the dispute.

9. In the event MTMCWA does not carry out the terms of this Agreement, MTMCWA is to comply with 36 CFR sections 800.4 through 800.6 with regard to individual undertakings covered by this Agreement.

Execution of this Memorandum of Agreement and implementation of its terms evidence that MTMCWA has afforded the Council an opportunity to comment on the undertakings of this program and its effects on historic properties, and that MTMCWA has satisfied its Section 106 and Section 110 responsibilities for all individual undertakings of the program. No further consultation of any federal, state, or local agency is required regarding the disposition of these eligible properties, including, but not limited to, any repair work, maintenance, alterations or demolition.

ADVISORY COUNCIL ON HISTORIC PRESERVATION

By:_____ Date: _____

Title: _____

MILITARY TRAFFIC MANAGEMENT COMMAND, WESTERN AREA

By:_____ Date: _____

Title: _____

CALIFORNIA STATE HISTORIC PRESERVATION OFFICER

By:_____ Date: _____

Title: _____

- **OARB Historic Preservation Plan Maintenance Guidelines**

December 1994
Final Submittal

Historic Preservation Plan
Oakland Army Base, CA

Prepared Under the Direction of
US Army Corps of Engineers
Sacramento District

Prepared by
Hermann Zillgens Associates
Architect Engineers, San Diego, Ca

Section III

Maintenance Guidelines

Table 3-1
Inspection, Repairs & Maintenance Schedule

Type of Work	Inspect	Repairs and Maintenance (by Facility)																					
		1	4	60	85	88	90	99	802	803	805	806	807	808	812	821	822	823	991	KRY	W6	W6.5	W7
Concrete	Annual																						
Structural Concrete																							
Porch Slabs/Docks					**R**																		
Steps																							
Wood	Annual																						
Flooring																		**R**					
Steps					**R**											**R**	**R**	**R**					
Siding													**R**						**R**				
Roofing	Biennial	**R**																					
Roofing																							
Flashing																							
Gutters																							
Finishes	Biennial																						
Stucco																							
Wood					**R**			**R**					**R**				**R**		**R**				
Special	Varies																						

R=Repairs Required

KRY=Knight Railroad Yard
W=Wharf

SECTION III - MAINTENANCE GUIDELINES

3.1 Standard Operating Procedures. These Standard Operating Procedures (SOPs) are provided to guide Installation personnel in the treatment of historic properties on Oakland Army Base. Army Regulation 420-40 "prescribes management responsibilities and standards for the treatment of historic properties ... in compliance with the National Historic Preservation Act [NHPA]." This regulation requires procedures for:

- ongoing identification of cultural resources on an installation;
- assessing the effect of new or revised activities on cultural resources; and,
- repairing and maintaining the cultural resources.

3.1.1 Ongoing Identification of Cultural Resources. Under typical circumstances, historic districts continue to yield valuable information long after the initial investigation and identification of cultural resources are performed. On Oakland Army Base, ongoing identification is not necessary because:

- as an Installation built entirely on imported fill material, excavation of the area within the confines of the Base is not warranted; and,
- the survey performed by Caltrans determined that the remainder of the Installation "appears to lack a sufficient percentage of intact buildings from the historic period of World War II ... to warrant consideration for inclusion within the Oakland Army Base Historic District".

3.1.2 Assessing Effects of New or Revised Activities on Cultural Resources. All future master planning on Oakland Army Base will include the Historic Preservation Plan as a planning component. As such, the HPP becomes a useful tool in weighing the advantages and disadvantages of a specific action against the impact on the Installation's cultural resources.

3.1.3 Management Requirements. The inventory of eligible historic structures yielded the following findings:

- With the exception of the Post Headquarters Building (Bldg. 1), the eligible buildings were originally constructed as temporary structures with a 5-year life expectancy to satisfy the expanding operational, administrative, and support needs of the Installation during World War II. As such, the buildings are strictly utilitarian in nature;
- no identifiable streetscape or landscape features help define the character of the eligible buildings or their relationship to the historic districts; and,
- the individual structures eligible for listing have undergone significant exterior renovation and interior redesign.

In summary, the individual structures contribute little to our architectural or engineering heritage. However, since these buildings are in use, it is prudent to continue periodic inspections and preventive repairs and maintenance on each structure.

3.2 Inspection, Repairs & Maintenance Requirements. Regular inspection and maintenance of the individual eligible buildings and facilities are the best means of preventing structural deterioration. In some cases, repairs to existing materials are needed to prevent further damage. Care must be exercised during repair and maintenance work. The following basic principles will help guide preservation activity:

- Limit repair/maintenance actions to only the damaged area of a structure;
- cleaning specific elements of a building's fabric is preferable to replacement. Never use harsh chemicals or highly abrasive procedures (e.g. sandblasting);
- select replacement materials that will duplicate as closely as possible the size, color, and composition of the original building materials;
- when in doubt about a specific repair/maintenance procedure, consult the "Secretary of the Interior's Standards for Historic Preservation Projects" for guidance.

Table 3-1, an Inspection, Repairs & Maintenance Schedule, has been prepared to assist Oakland Army Base's facilities maintenance department. The table divides repair and maintenance work into five general types: concrete, wood, roofing, finishes, and special. While the first four are self-explanatory, "Special" refers to activities in the wharf area and in the Knight Railroad Yard. Carry out inspection of each eligible building on a regular basis: concrete and wood elements are to be inspected annually, while roofing and finishes may be inspected every other year.

In addition to the inspection schedule, Table 1 makes note of repairs needed on the individual facilities, as discovered during surveys of the buildings. A more detailed description of location and the remedial action that is required is discussed in Section 3.2.1, "Description of Needed Repairs and Maintenance."

3.2.1 Description of Needed Repairs and Maintenance

Building 1 - Post Headquarters: The general condition of this building is good. The surface of the metal canopy over the main door in the central courtyard is deteriorating *(Photo 1)*. A closer inspection of this architectural element is warranted, and appropriate action is to be taken to arrest further decay.

Building 4 - POV Inspection: This building is in generally good condition. There is concern over the effect of regular flooding along the building's east side along Africa Street caused by high tides *(Photo 2)*. Excessive standing water can undermine the foundation, resulting in damage to the structure. This situation is being remedied as part of the Port of Oakland's rehabilitation of the backup storage yards at Army Wharves 6 and 6-1/2.

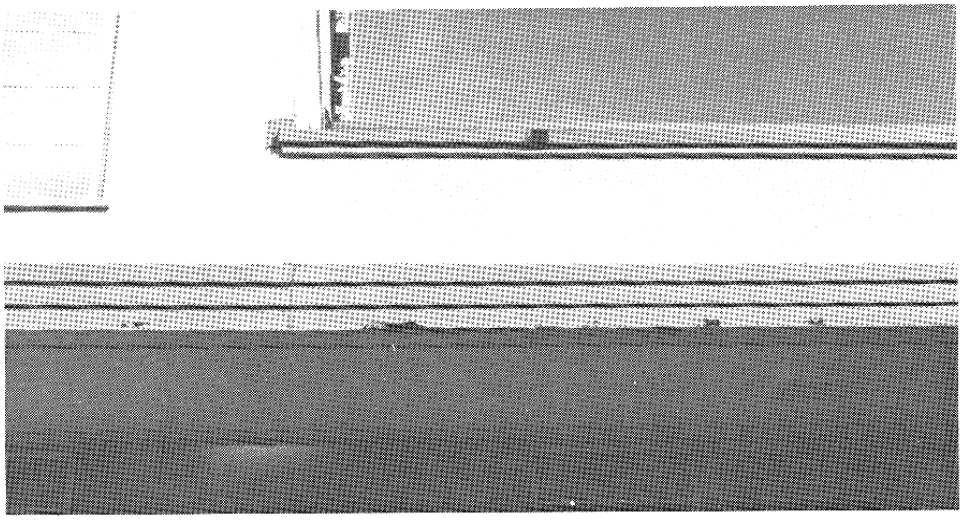

Photo 1. The canopy overhanging the main entrance into Building 1 from the central courtyard (south side) is deteriorating.

Photo 2. Building 4 is exposed to frequent flooding along Africa Street, jeopardizing the integrity of the foundation.

Building 60 - Exchange Cafeteria: Building 60 is being repainted. No notable problems were detected; the building is considered in good condition.

Building 85 - Printing Plant: Building 85 is in average condition, exhibiting significant deterioration of the exterior fabric. The wood siding, although in adequate condition, needs repainting, as do all doors and window frames. The wood platform running the length of the building's west side is in poor condition. A number of boards are badly split and should be replaced *(Photo 3)*. The platform's support beams need to be

carefully inspected to insure that they are not shifting off the concrete piers. Wood railings and steps at the ends of the platform are loose, needing either renailing or replacement.

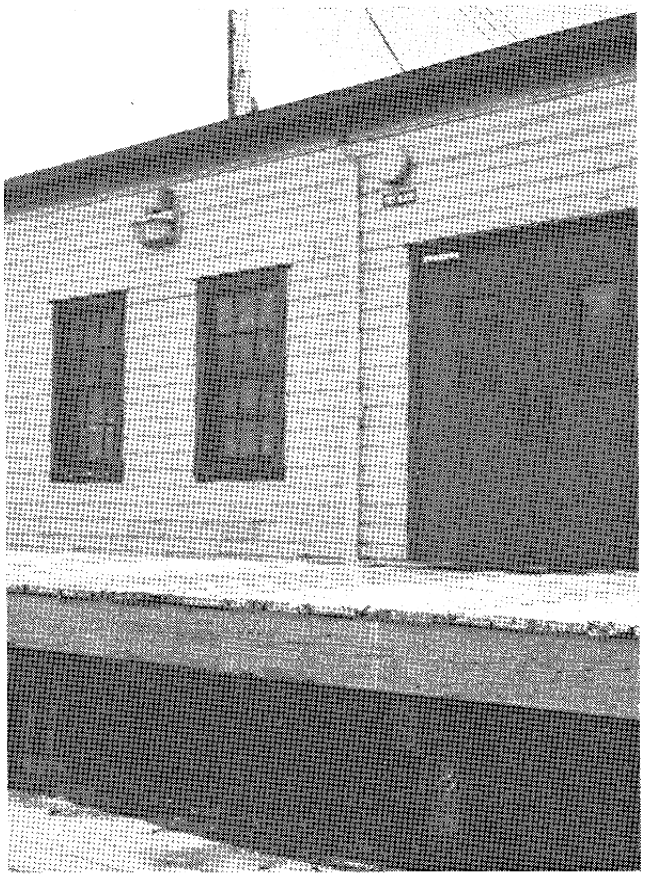

Photo 3. The loading dock on the west side of Building 85 is in poor condition. The wood siding, trim and doors require repainting.

Building 88 - Storehouse: This Storehouse is in good condition, having recently been repainted. No notable problems were detected.

Building 90 - General Purpose Administration: As with many of the other buildings in this district, Building 90 has recently been repainted. Overall, the fabric and structure appear in good condition.

Building 99 - Vehicle Maintenance Shop: Built in 1919, this structure is in good condition considering its age. Except for staining of the transite (asbestos-concrete) surface, there are no significant maintenance or repairs that appear necessary at present.

Building 802-808 - Warehouses: Taken as a group, the warehouses are in average condition. All are in need of painting, which is currently underway. Exterior concrete docks appear sound. Some splitting of support posts inside the buildings was observed. This should be monitored on a regular basis. It may be advisable to repair or replace badly deteriorated posts if these buildings are to remain in use for an extended period of time.

Building 812 - Vehicle Maintenance Shop: Building 812 appears in good overall condition.

Building 821 - Storehouse: The interior of this building could not be inspected at the time of the survey. The exterior fabric appeared sound, although wood railings on both the east and west ends need repair. The building is generally in good condition.

Building 822 - Storehouse: Building 822 requires repainting of the exterior wood siding, sliding wood doors, and trim. Wood railings need replacement, especially those on the concrete platform at the building's northeast corner *(Photo 4)*. The interior of this structure was not available for inspection. Overall, this Storehouse is considered in average condition.

Building 823 - Box & Crate Shop: The Box & Crate Shop is in average condition. An inspection of the interior revealed a wooden floor that is badly rotting in places. This needs to be replaced soon to prevent accidents from occurring. The exterior fabric appeared to have been recently painted, but not the sliding wood doors. The latter should be repainted as well. A wood railing on the concrete steps at the southwest corner is missing and needs to be installed. The adjacent wood ramp is also in poor condition with many rotting or loose boards *(Photo 5)*.

Building 991 - Railroad Engine Shop: Like Building 99, the Railroad Engine Shop's exterior fabric is transite (asbestos-concrete). This material is badly stained; many tiles need replacement, and the whole should be cleaned and repainted. In addition, wood surfaces and trim need repainting *(Photo 6)*. Broken windows in the building's west side need replacement. The shop's interior was not open for inspection during the survey, so its condition cannot be assessed. This building can be considered in average condition, overall.

Photo 4. Wood handrailings on steps accessing the northside dock of Building 822 are collapsing. Concrete is also showing signs of deterioration.

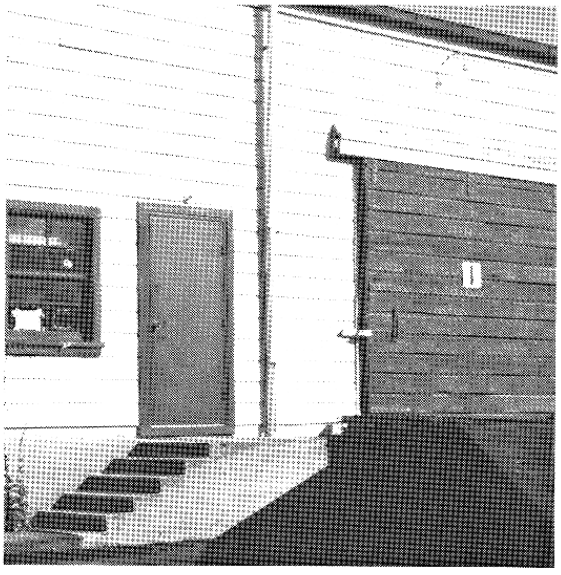

Photo 5. The wooden railing on steps at Building 823 is missing. The wooden loading ramp shows severe weathering and should be replaced.

Photo 6. Building 991 exhibits broken window panes, discolored siding, and peeling paint on the trim.

3.3 **Inspection, Repair and Maintenance Procedures.** Procedures for repairing and maintaining the eligible facilities are presented below.

3.3.1 **Concrete.** The eligible buildings are constructed primarily of wood. However, concrete is used in structural settings (footings and piers, skirt walls, foundation slabs), and for porch slabs, loading docks and exterior steps. Three buildings have stucco finishes on the exterior walls: Buildings 1, 4, and 60 (See Section 3.3.4, "Finishes"). Concrete sidewalks from a contemporary period are not considered integral components of these buildings.

Inspection. Conduct annual inspections of all concrete surfaces and elements. Every two years, inspect surface cracks resulting from settlement.

Repairs and Maintenance. Prior to making any repairs, ensure that water drains away from buildings to prevent damage to structural fabrics or foundations.

- Structural Concrete

  - Repairs to structural concrete, including piers, should be carried out under the direction of an architect or structural engineer.

  - All materials used in concrete repair or during replacement of concrete elements are to conform to specifications delineated by the American Society of Testing Materials (ASTM), or comparable federal specifications.

- The composition of the concrete for either repair work or during replacement must possess an ultimate compressive strength (in psi) equal to the existing surrounding concrete.

- Remove only deteriorated areas of concrete, taking care not to damage surrounding concrete or reinforcing bars that are to be retained.

- When cutting and removing sections of damaged concrete, keep all edges perpendicular to the surface.

- Cracks that result in movement exceeding 1/8" per year could be serious—their cause should be determined.

- Treat minor non-structural cracks with epoxy, according to the manufacturers directions. Paint seasonal or hairline cracks at the same time that the entire building is painted.

• Porch Slabs and Loading Docks.

- Replace sagging or heavily cracked slabs resulting from loss of tensile strength in the reinforcing steel.

- Repour on-grade or near grade slabs on a compacted sub-base, making sure that sufficient control and expansion joints are provided.

- Install supporting walls for above grade slabs at the leading edge and at regular structural intervals. Pour the new slab over steel decking.

- Never cover existing wooden lintels during slab resurfacing or replacement.

• Steps.

- Repair cracks as soon as possible (see "Structural Concrete" above).

- Replace steps that have sagged or failed due to loss of tensile strength in the reinforcing steel, making sure that all new work includes adequate control and expansion joints.

3.3.2 Wood. Wood is the primary construction material for each of the eligible buildings. Some of the structures are supported on wooden piles sunk into loose fill soil of the area. The majority of the buildings are heavy wood frame structures with floors, and sometimes sub-floors, of wood. Standard stud walls are typical throughout. These may be covered by either wood siding or stuccoed sheathing on the exterior.

Inspection. Conduct annual inspections of all wood elements.

Repairs & Maintenance. All hardware (nails, bolts, reinforcements) must be anti-corrosive. Unless visible by design, fasten hardware (bolts, angles, braces, etc.) in non-visible areas. Countersink and putty nails.

- Flooring.

  - When replacing interior wood floor boards and support members, match the original dimensions of the discarded wood.

  - Duplicate special cuts, such as tongue and groove, where applicable.

  - Apply a wood preservative to all surfaces of new floor boards, including end cuts. Existing floor boards are to be cleaned of paint and sanded before application of wood preservative.

  - Minor rotting may be treated with a low viscosity epoxy resin to stop further deterioration.

  - Patch wood with a putty consisting of epoxy resins and fillers with some flexibility (e.g. fiberglass, superfine sawdust or glass microballoons).

  - Common window putty or glazing compound may be used to patch small holes and cracks.

- Steps.

  - Before beginning any repair or maintenance work on wood steps, inspect and repair footings (See "Concrete" under Section 3.3.1).

  - Never rest wood members on the finished grade. Grade surrounding areas to drain away from foundations.

  - Replace wood treads, stringers, rails and other members with similar types of wood (preferably redwood or yellow pine), that conforms to the dimensions of the original member.

  - Apply a wood preservative to all step members before installation. Suggested preservatives include Orthal Phenolphenol (OPP) and Tributyl Tin Oxide (TBTO) which goes under the commercial name of "Osmose."

  - Apply a coat of paint matching surrounding colors to the underside of treads and along edges.

  - Inspect all step railings for stability.

  - Replace all rotted or deteriorated railing members with vertical grain fir.

  - Wood preservative is to be applied to all sides of new railing members before installation, and to existing railings after surfaces have been cleaned of paint and sanded.

  - Minor rotting of railings may be treated with a low viscosity epoxy resin to stop further deterioration.

- Patch railings with a putty consisting of epoxy resins and fillers with some flexibility (e.g. fiberglass, superfine sawdust or glass microballoons).

- Common window putty or glazing compound may be used to patch small holes and cracks in railings.

- Wood Siding.

  - Carefully inspect all wood siding. Where siding has deteriorated past the point of repair, replace damaged sections (rotted, split or badly warped) with the same kind of material or a compatible substitute—clear white pine is preferred.

  - New wood siding is to be affixed to sheathing in the same manner as existing surrounding siding.

  - Always set and putty nail heads used on new wood siding.

  - Coat knots and patched areas with gum shellac thinned with pure alcohol.

  - Inspect painted wood siding to determine whether repainting is necessary or if cleaning is all that is required.

  - Remove damaged or deteriorated paint to the next sound layer by handscraping or handsanding, then repainting.

  - Apply compatible paint coating systems. Use colors that are appropriate to the historic building and district (See "Finishes" in Section 3.3.4).

3.3.3 **Roofing.** Roof coverings on the eligible buildings are either asphalt shingles or composition. All have been replaced since the structures were erected.

Inspection. The moisture-proof integrity of all roofs on the eligible buildings is a high priority of the Installation's maintenance program. Inspect all roofs every two years for signs of any cracking, and for missing or damaged pieces. Clean and inspect gutters, downspouts, and flashing around roof vents each year before the winter rainy season begins.

Repairs and Maintenance.

- Roofing.

  - Duplicate existing roofing surface when making repairs.

  - Replace damaged sheathing and waterproofing paper, and remove previous shingles that are more than three layers thick.

  - For shingled roofs, use only new asphalt shingles that match the surrounding existing material in color and thickness. Follow manufacturers instructions on laying roofing material.

- Do not use shingles that simulate other roofing styles (e.g. slate, wood), nor should shingles be notched or cut to give the appearance of shake.

- Never use asphalt shingles on roofs with a pitch of less than 4" in one foot.

- Flashing.

  - Flashing and counterflashing is required around all roof openings. There must be sufficient metal to assure tightness.

  - Use clean material to match original type of flashing.

- Gutters.

  - Correct gutter breaks and tears.

  - Clean out debris clogging leads and downspouts.

3.3.4 Finishes. All exterior building surfaces, whether stucco or wood siding, are painted. Consult the OARB Installation Design Guide for painting color schemes, or duplicate the existing building color.

Inspection. Inspect painted surfaces every two years.

Repairs and Maintenance.

- Stucco.

  - Areas exhibiting extensive cracking and spalling are to be stripped and re-stuccoed. Remove loose or deteriorated stucco with a stiff bristle brush. Lightly moisten cracks and fill with multiple coats of cement mastic. Repair backing (either tile or concrete). Never install welded wire mesh unless this material has already been used. Key all surfaces for stucco application.

  - Thoroughly wet all surfaces and apply portland cement plaster (1 part cement, 3 parts sand, 1/4 part lime). All stucco is to be tooled and finished to match the existing surface.

  - Clean stuccoed surfaces only when necessary to halt deterioration or remove heavy soiling. Clean by using low pressure water, gentle detergents, and natural bristle brushes. Sandblasting, high pressure water, or harsh solvents will damage the stucco and are not to be used.

  - Repaint stuccoed surfaces only after removing damaged or deteriorated paint, and then only to the next sound layer. This may be done with either a wire brush, organic strippers, or low pressure (50 psi) wet grit.

  - Where appropriate, repair stucco surfaces before painting by removing damaged material and patching with new stucco that duplicates the old in strength, composition, color and texture.

- Apply 1 coat of oil base primer and 2 coats of oil base top-coat. New stucco must not be painted for a minimum of 30 days following installation.

• Wood.

- Before painting wood siding, remove paint that is cracking, flaking, peeling or bubbling using water soluble, non-flammable paint removers. Harsh chemicals, sharp tools that scar the existing wood, or mechanical sanders should not be used. Thoroughly clean all non-damaged wood areas with mild soaps, brushing and rinsing surfaces with a gentle water spray. Wood must be completely dry before applying paint.

- Mask all surrounding areas not to be painted.

- Apply 1 coat of oil base primer, following manufacturers directions. Paint all exterior new wood with 2 coats of oil base top-coat.

3.3.5 Special. Repair and maintenance of the wharf area (Wharves 6, 6-1/2, and 7) and the Knight Railroad Yard should be undertaken when necessary to keep these operational facilities in good working order. It is outside the scope of these guidelines to list the wide variety of work that may be required. Facilities engineers need to consult the established standards cited below for both wharf and railroad repair and maintenance activities.

Inspection. The wharves need to be visually inspected at least annually. Army railroad track is to be inspected with the following frequency, depending on use (from Handbook of Railroad Track Standards - TM5-628):

Traffic Frequency	Inspection Frequency
2 or more movements/week	Once every month
1 to 2 movements/week	Once every 2 months
Less than 1 movement/week	Once every 6 months

Repairs and Maintenance.

• Wharves. Design criteria for wharf repair and upgrading will be in accordance with the following:

- Damping factor: 5%.

- Ductility/Risk Factor: 4 (minimum).

- Design Response Spectrum: Dames & Moore Final Geotech Report dated 24 October 1990.

- Results of Inelastic Spectrum Analysis.

Architectural and Engineering Instructions (AEI) Design Criteria dated 14 July 1989.

Military Handbook, Piers and Wharfs, Mil-HDBK-1025/1 dated 30 October 1987.

USN Fac Engr Command DM-2, DM-25.1 and DM-26.

ACI Standards 318-89.

- Railroad Trackage. Railroad maintenance and repair work will be in accordance with the following:

TM 5-628 Railroad Track Standards.

Federal Railroad Administration (FRA) Class 2 Track Standards.

TM 5-850 Railroad Design and Construction at Army and Air Force Installations.

American Railway Engineering Association Manual for Railway Engineering.

Architectural and Engineering Instructions Design Criteria 14 July 1989.

APPENDIX F - EIFS MODEL OUTPUT

- Economic Evaluation
- EIFS Construction Model Output
- Standard EIFS Forecast Model Output
- Rational Threshold Values for OARB

- **Economic Evaluation**

ECONOMIC EVALUATION

1.0 Discussion of EIFS Models

1.1 Economic Forecast Models

EIFS, a computer-based economic modeling and information system designed to address the economic impacts of major Army actions and measure their significance, is mandated for use in NEPA assessment for all Base Realignment and Closure (BRAC) projects. EIFS contains a number of economic forecast models suitable for estimating the direct and indirect effects resulting from a given action. The construction and standard EIFS forecast models, used for this analysis, employ the economic base model approach to estimate the multiplier effects associated with a given action.

Economic base models calculate regional economic multipliers based on the ratio of total economic activity to "basic" economic activity. Basic, in this context, is defined as the export-oriented sector of the economy. Basic economic activities produce goods and services that are sold or distributed to businesses or households outside the local economy. Establishments within the local economy that cause funds to flow into the regional economy are also considered to be export-oriented and part of the basic sector. The non-basic sector consists of those activities that serve the local economy by selling goods and services to the local population or other firms in the region. Military bases, such as OARB, form key parts of the basic sector in some regional economies.

Economic base models are based on the idea that regional economies are driven by the basic sector. Changes in export activity cause changes in the local payroll of export firms which are in turn transmitted to local service sector establishments. The inflow or outflow of money causes local service activities to change by a multiple of the original change. This process occurs because the influx of funds is spent and re-spent in the local economy. A withdrawal of funds results in a corresponding reduction in local economic activity. Initial decreases in local sales result in further decreases as payrolls shrink and local employment contracts. Economic base theory assumes that the ratio of total income to basic income is measurable as the multiplier effect.

The construction and standard EIFS forecast models estimate regional multiplier values using the location quotient approach, which involves comparing the regional concentration of industrial activity with that for the nation as a whole. A region having a greater concentration of its economic activity in a commodity than the nation does as a whole is assumed to be not only satisfying local need for the product but also exporting that product to other regions.

1.2 Construction and Standard EIFS Forecast Models

The construction and standard EIFS forecast models assess the impacts of a proposed action in terms of the direct and indirect changes in employment, income, sales volume, and population in

the region of influence (ROI). These variables are considered primary indicators of social change in a regional economy.

In this analysis, the construction and standard EIFS forecast models were used to assess the direct and indirect effects associated with the six proposed reuse alternatives. The inputs used in this analysis are presented for the construction and standard models in Tables F-2 and F-3, respectively. These values and the associated data sources are discussed in section 3.0 of this appendix.

1.3 Rational Threshold Model

The construction and standard models forecast the direct and indirect effects of a proposed action but do not assess the *significance* of these effects. Information that allows the user to assess the magnitude of an action's forecasted effect on a region is provided by the EIFS Rational Threshold Value (RTV) model. The RTV model provides boundaries, or threshold values, to assess the significance of an action's impact. These boundaries are based on historic fluctuations in employment, income, sales volume, and population in the ROI. The average annual change between 1969 and 1992 is calculated for each variable and subtracted from the actual annual change for each year. The resulting totals are the annual deviations from the average.

If the effects of a proposed action fall within a range of the maximum annual historic deviation for each variable they are considered insignificant. This range is calculated by taking a percentage of the maximum historical deviation. These percentages are shown for each variable in Table F-1. The maximum positive historical fluctuation is allowed because economic growth is generally assumed to be positive (Huppertz *et al.* 1994). It is assumed that reducing economic activity has more significant local impacts and this is reflected in the reduced percentages in Table F-1. These boundaries are assumed to determine the amount of change that will not significantly affect an area.

Table F-1. Threshold Value Calculation Coefficients.

	Increase	Decrease
total business volume	100 percent	75 percent
total employment	100 percent	67 percent
personal income	100 percent	67 percent
total population	100 percent	50 percent

Source: Huppertz *et al.* ,1994

2.0 Region of Influence (ROI)

Selection of an appropriate study area or ROI is one of the most important factors in conducting an EIFS analysis because it has the potential to affect the conclusions of the study. The magnitude of the economic impacts forecast by the EIFS model typically varies with the size of the study area. One constraint exerted by the EIFS model is that the ROI must consist of one or more counties. The Oakland PMSA, which consists of Alameda and Contra Costa counties was selected as the ROI for this analysis. The following paragraphs outline the basis of this selection.

Factors that are typically considered in delineating the appropriate ROI include the residential distribution of affected personnel, regional commuting patterns, and the availability of local shopping opportunities (BRAC NEPA Manual, 1995).

2.1 Residential and Commuting Patterns

The Oakland PMSA was selected as the ROI primarily because more of Oakland Army Base's (OARB's) civilian employees (45 percent) lived there than any other single area in 1996 (IURD 1996). Although 45 percent may not appear to be a significant concentration, the IURD data suggests that, aside from two relative concentrations in Solano County (8 percent) and San Francisco County (8 percent), the remainder of the base's civilian employees were distributed throughout the extended Bay Area. In general, many Bay Area residents commute long distances from their homes to work in other Bay Area cities and counties (EDAW 1997). The average travel time to work in the Oakland PMSA was 27.2 minutes in 1990. The corresponding figure for the San Francisco PMSA was 25.9 minutes (U.S. Census 1990).

Based on the residential distribution of the base's civilian employees in 1996, it seems reasonable to assume that more of the projected employees will reside in the Oakland PMSA than in any other area. Similarly, it is probable that the remainder of the projected employees, which may be more than 50 percent of the total, will reside at other locations throughout the Bay Area and in some cases beyond. From this perspective, defining the Oakland PMSA as the ROI tends to overestimate both the positive and negative effects of project-related employment in the Oakland PMSA. Including additional counties, such as San Francisco County, in the ROI would dilute the potential economic impacts because the relative significance of impacts tends to become smaller as the size of the ROI increases (BRAC NEPA Manual, 1995).

2.2 Availability of Local Shopping Opportunities

The residence pattern of the affected personnel is important because it determines where they are likely to spend their salaries. Equally important in this context is the availability of shopping opportunities. From this perspective, selection of the Oakland PMSA as the ROI is supported by both sales data and the distribution of retail outlets.

Table F-2. EIFS construction model inputs.

Alternative		Dollar Volume[1/]	Percent for Labor	Percent for Materials	Percent Allowed for Other	Percent Migration
1	Traditional Reuse and Conservation	105,579,118	28.8	48.8	22.4	0.0
2	Maritime Redevelopment	200,752,176	28.8	48.8	22.4	0.0
3	Adaptive Reuse	225,463,489	28.8	48.8	22.4	0.0
4	OBRA Reuse Plan	256,018,662	28.8	48.8	22.4	0.0
5	High Density Business Park	455,582,775	28.8	48.8	22.4	0.0
6	Maximum Density Traditional Office	2,957,967,681	28.8	48.8	22.4	0.0

[1/]See Table F-4 for source information.
Source: EDAW,1997; Marshall Valuation Service 1999; OBRA 1998

Table F-3. Standard EIFS forecast model inputs.

Alternative		Change in Local Expenditures[1/]	Change in Civilian Employment[2/]	Average Civilian Income[3/]	Percent of Civilians Relocating	Change in Military Employment[4/]	Average Military Income[5/]	Percent of Military Living on Base
1	Traditional Reuse and Conservation	117,246,576	1,134	50,377	25%	-104	58,909	100%
2	Maritime Redevelopment	405,504,030	2,231	50,377	25%	-104	58,909	100%
3	Adaptive Reuse	303,643,608	4,584	50,377	25%	-104	58,909	100%
4	OBRA Reuse Plan	355,319,387	4,920	50,377	25%	-104	58,909	100%
5	High Density Business Park	374,925,888	7,143	50,377	25%	-104	58,909	100%
6	Maximum Density Traditional Office	1,174,646,292	39,946	50,377	25%	-104	58,909	100%

[1/] BEA 1997; USACERL 1994; U.S. Census 1998.
[2/] EDAW 1997; OBRA 1998.
[3/] BEA 1988; EDD 1998.
[4/] EDAW 1997.
[5/] MTMC 1997.

The Buying Power Index (BPI), which is a ratio of retail sales to total effective buying income was 0.92 for the Oakland PMSA in 1994. This implies that in 1994 the majority of residents within the Oakland PMSA did most of their shopping within the PMSA. The corresponding figures for Alameda County and the City of Oakland were 0.54 and 0.13, respectively. These figures suggest that City of Oakland residents do the majority of their shopping outside the city limits but within the PMSA. Similarly, they indicate that Alameda County residents do a large portion of their shopping outside the county but within the Oakland PSMA. This suggests that it is necessary to include Contra Costa County in the ROI from a retail sales perspective. Although San Francisco is located in close proximity, the downtown area is difficult to access by automobile and therefore, represents a small proportion of expenditures by Oakland PMSA residents.

These data appear to be supported by the distribution of retail opportunities within the Oakland PMSA. Retail activities in Alameda County are primarily concentrated at the I-80/I-880 intersection. In Contra Costa County, large retail developments are located around Pleasanton and Livermore in the Tri-Valley region. Retail development has also taken place in Walnut Creek and downtown Pleasant Hill. Despite the development of a number of off-price centers in the East Bay Area and the East Baybridge Center in nearby Emeryville, Oakland is generally underserved by retail (EDAW 1997).

3.0 EIFS Model Inputs

The construction and standard EIFS forecast models both require that the user input information for a series of parameters that address changes in project spending and military and civilian employment. These inputs and the associated ROI are key user-determined components for each analysis. The required inputs and the corresponding sources of data employed for the OARB analysis are outlined below.

3.1 Construction Forecast Model Inputs

3.1.1 Dollar Volume of Construction Project

Data for the dollar volume of construction for alternatives 1,2,3, and 5 were obtained from EDAW 1997. Detailed analysis has not been conducted for alternatives 4 and 6. The estimates prepared here are based on those developed for the other four alternatives. The data, presented in Table F-4, are provided by construction activity and include estimates for interest carry costs, developer profit, and development management costs. New cost estimates, which should be regarded as conceptual in nature, are based on typical construction costs developed by the Marshall Valuation Service.

Table F-4. Dollar volume of construction project by alternative.

	Alternative					
	1	2	3	4	5	6
New Construction[1/]	6,864,000	85,319,425	11,148,750	127,687,746	260,585,847	2,011,540,887
Building Rehabilitation[2/]	32,670,250		112,845,000			
Transportation Infrastructure[2/]	4,540,050	26,067,050	7,644,450	20,006,600	36,942,900	160,408,892
Infrastructure/Utilities[2/]	35,970,520	40,813,810	39,296,970	46,406,232	47,871,386	70,633,755
Associated Interest Carry Costs[3/]	10,085,647	19,177,236	21,537,831	24,456,673	43,520,417	282,565,525
Developer Profit[3/]	13,527,575	25,721,848	28,888,044	32,802,998	58,372,622	378,996,617
Development Management[3/]	1,921,076	3,652,807	4,102,444	4,658,414	8,289,603	53,822,005
Total	105,579,118	200,752,176	225,463,489	256,018,662	455,582,775	2,957,967,681

[1/] No formal proposals for development presently exist under any of the alternatives. As a result, the construction costs presented here reflect a number of assumptions regarding the class and dimensions of the floor space that would be constructed under each alternative. These costs, which should be regarded as conceptual in nature, are based on typical construction costs developed by the Marshall Valuation Service.

[2/] Costs for building rehabilitation, transportation infrastructure, and infrastructure/utilities for alternatives 1, 2, 3, and 5 are from EDAW (1997 – Appendix 3.0, Table A-3 prepared by Keyser Marston and Associates, Inc.). Detailed analysis has not been conducted for alternatives 4 and 6. The estimates presented here are based on those developed for the other four alternatives.

[3/] Estimated associated interest carry costs, developer profit, and development management costs are based on ratios to total construction costs presented in EDAW (1997 – Appendix 3.0, Table A-3 prepared by Keyser Marston and Associates, Inc.).

3.1.2 Local Expenditures of Project

The EIFS model computes this as a percentage of total expenditures based on the multipliers it calculates for the ROI.

3.1.3 Percent for Labor; Percent for Materials; and Percent Allowed for Other

The EIFS model provides a default labor value of 34.2 percent, which is calculated by dividing total construction employee compensation by total industry output. The corresponding default value for the percentage of construction expenditures used to purchase materials and supplies is 57.8 percent. The remaining difference, 8 percent, is assumed to represent additional costs and profits and is identified in the model as the "percent allowed for other" (Huppertz *et al.* 1994). For each alternative presented in Table F-5, interest carry costs and developer profit represent 22.4 percent of total costs. This number corresponds with the percentage of construction expenditures "allowed for other" entry in the EIFS construction model, which, as noted, has a default value of 8 percent. Revising the default values for labor and materials to account for this results in revised figures of 28.8 percent and 48.8 percent, respectively.

3.1.3 Percent of Construction Workers Expected to Migrate into the Area

The EIFS model provides a default value of 30 percent. Construction employment in the ROI totaled 50,400 in 1997 (EDD 1998). Further, the OARB site is centrally located in the Bay area, which is projected to have an employed construction labor force of 160,610 by the year 2000

(EDAW 1997). Much of this labor force will reside within commuting distance of the base site. Any migration movements are anticipated to be temporary. Given this high concentration of construction workers and the temporary nature of construction work, no construction workers are expected to permanently migrate to the area.

3.2 Standard EIFS Forecast Model Inputs

3.2.1 Change in Total or Local Expenditures for Services and Supplies

This involves calculating the change in the dollar value of expenditures associated with the proposed action. The model allows the user to input either total or local changes. If the user enters total expenditures the model computes local expenditures as a percentage of the total.

Total expenditures were computed for each alternative based on the associated employment projections by industrial sector (EDAW 1997; OBRA 1998). These projections are presented in Table 3.4-2 of this document. The average expenditure per employee was calculated using data from the Bureau of Economic Analysis (BEA) Input-Output (I-O) Accounts for the U.S. Economy, 1992 (BEA 1997). Each proposed land use was assigned to one of the industrial sectors identified in the BEA I-O Accounts. An employee to total intermediate inputs dollar ratio was calculated for each selected sector. The total expenditure for each of the proposed alternatives was calculated using the employment projections and associated intermediate input dollar ratios.

This involved a number of intermediate steps because the I-O data do not identify the number of employees per industry. Employee per industry data, sorted by Standard Industrial Classification (SIC) code, were obtained for 1994 from the U.S. Census Bureau (U.S. Census 1998). Data for the appropriate sectors were cross-referenced with the I-O classification codes and the total intermediate inputs for each sector were divided by the number of employees to obtain the necessary ratio. These ratios should be viewed as approximate because of the aggregated and national nature of the I-O data.

The EIFS model computes local expenditures as a percentage of total expenditures based on the multipliers it calculates for the ROI. The total expenditures for each reuse alternative were multiplied by this ratio to obtain local expenditures. The local base expenditures for 1996 ($23 million), the closest year available to the baseline, were subsequently subtracted from each alternative's local expenditures to obtain the change in local expenditures for each alternative.

3.2.2 Change in Civilian Employment

The change in civilian employment was calculated by subtracting the number of existing civilian employees (for the base year) from the number of employees projected for each alternative. The subsequent totals for each alternative are shown in Table F-4.

Table F-5. Change in civilian and military employment[1/]

		Projected Employment[2/]	Change in Civilian Employment	Change in Military Employment
1	Traditional Reuse and Conservation	3,074	1,134	-104
2	Maritime Redevelopment	4,171	2,231	-104
3	Adaptive Reuse	6,524	4,584	-104
4	OBRA Reuse Plan	6,860	4,920	-104
5	High Density Business Park	9,083	7,143	-104
6	Maximum Density Trad. Office	41,886	39,946	-104

[1/] In 1995 the Army and other base tenants employed 1,910 civilian and 134 military personnel (ACOE 1997). All alternatives include a 13-acre Army Reserve Enclave that will employ approximately 30 military personnel.
[2/] Totals include the projected 30 military personnel.
Source: Foster Wheeler 1998; OBRA 1998

3.2.3 Average Income of Affected Civilian Personnel

This represents the average annual gross income of civilian personnel affected by the action. Income in the context of the EIFS model refers to a broader concept than just employees' wages and salaries. The model also requires that the data include additional sources of income, such as income earned from interest, dividends, and rents, if possible (Huppertz *et al*. 1994).

The average income of affected civilian personnel for this analysis is $50,377, the average civilian income in the ROI in 1995. This figure was calculated by taking the total personal income, including income from wages and salaries, interest, dividends, and rents, for Alameda and Contra Costa counties and dividing it by the number of people employed in each county (both figures were computed for "place of residence") (BEA 1998a; EDD 1998). Data for interest, dividends, and rents are provided for the population as a whole. Dividing the total for each county by the number of employees, therefore, results in a slightly inflated average income figure. From an impact analysis perspective, this slightly inflated estimate represents a conservative position because potential impacts may be over- rather than under-estimated. It may also partially compensate for the absence of other forms of income, such as wages from second jobs and working dependents that are not included in the BEA total income data.

3.2.4 Percentage of Civilian Personnel Expected to Relocate

The EIFS model assumes a default value of 0. The number of personnel that will relocate will, however, vary depending on a number of factors including the availability of labor in the required skill categories, the size of the local and regional labor market, and the type of exogenous stimulus being analyzed.

It is typically assumed that clerical or semi-skilled workers are less likely to relocate than managerial, professional, or highly skilled technical personnel (Huppertz *et al*. 1994). Employment data is presented for each alternative by occupational category in Table F-5.

Table F-6. Projected employment by occupational category.

	Alternative					
	1	**2**	**3**	**4**	**5**	**6**
Executive, administrative, and managerial	32	115	371	436	995	11,778
Professional, paraprofessional, and managerial	533	591	3,837	2,583	4,137	20,149
Sales and related	165	70	0	118	485	709
Clerical and administrative support	182	265	550	555	852	5,997
Public and private services	413	798	527	670	808	2,249
Production, operation, construction and material handling	1,749	2,332	1,239	2,498	1,806	1,003
Total	3,074	4,171	6,524	6,860	9,083	41,886

Source: EDAW 1997; OBRA 1998

Despite the relative concentrations of projected employment in professional, paraprofessional, and managerial occupations, the percentage of civilian personnel expected to relocate in the ROI is expected to be low. A large and extremely diversified labor force resides within the ROI and surrounding Bay Area within easy commute of the base site. In a number of cases, employment opportunities are being developed specifically for residents of the adjacent community and a number of the projected jobs may also be filled by civilian employees of the base's former tenants. With the exception of alternative 6, the proposed alternatives represent less than one percent of the existing ROI labor force (EDD 1998). Employment projected for alternative 6, the maximum density office alternative, represents 4.6 percent of the existing total.

In this analysis, the regional impacts of a transition from baseline operations to one of six proposed reuse alternatives are being assessed. The majority of the land uses proposed under each alternative are market-driven. As a result, projected employment is not simply a function of the proposed action. Future land uses may include tenants relocating from existing sites in the ROI. Further, other tenants may select this site from a number of different sites located in the region. The reuse market analysis (EDAW 1997) noted low vacancy rates in a number of commercial real estate markets, which suggests that demand for certain types of property is high in the region. This demand may be satisfied elsewhere if the base is not reused.

This analysis assumes that 25 percent of the projected employees will relocate to the ROI. As the preceding discussion suggests, this is a high estimate that will tend to overestimate both the positive and negative effects of project-related employment.

3.2.5 Change in Military Employment

This represents military personnel transferred to or out of the region, or newly added personnel. The base employed 134 military personnel in 1995. All alternatives include a 20-acre Army Reserve Enclave that will employ 30 military personnel (Foster Wheeler 1988; OBRA 1998). Therefore, the change in military personnel is anticipated to be –104.

3.2.6 Average Income of Affected Military Personnel

This represents the average annual gross income of military personnel affected by the action. The average salary of the military personnel employed at the base in 1995 was $50,135 (MTMC 1997). This figure was calculated by dividing total payroll by number of employees and does not include unearned income (i.e., interest, rents, and dividends). This average salary figure, multiplied by the ROI civilian salary to total income ratio derived from the civilian calculations described above, results in an average military income of $58,909. As with the civilian income data, this is a slightly inflated estimate because the salary-to-income ratio is based on data for interest, dividends, and rents for the population as a whole, not just for employed members of the labor force.

3.2.7 Percent of Military Living on Post

There are presently 112 residential units on the base. For this analysis, it is assumed that all 134 (100 percent) of the military personnel, employed in 1995, resided on the base. This percentage is important because the EIFS model assumes that military personnel residing on-post contribute less to the local economy than those living off base. Assuming that 100 percent of the former personnel resided on-post may, as a result, underestimate the 1995 expenditures of this group. This assumption is made because the change in employee expenditures between baseline conditions and each alternative is likely to be over- rather than under-estimated.

4.0 EIFS MODEL OUTPUTS

Outputs from the Construction Forecast Models and Standard EIFS Forecast are presented in the following Tables F-7 through F-18.

Table F-7. EIFS construction model output for Reuse Alternative 1.

Indicator	Projected Change	Percentage Change	RTV
Direct Sales Volume	77,600,000		
Total sales Volume	293,330,000	1.2	14.31%
Direct Employment	449		
Total Employment	1,697	0.14	3.30%
Direct Income	10,449,000		
Total Income	39,499,000	0.06	7.02%
Local Population	0	0	1.78%

Table F-8. Standard EIFS model output for Reuse Alternative 1.

Indicator	Projected Change	Percentage Change	RTV
Direct Sales Volume	130,187,000		
Total Sales Volume	492,108,000	2.01	14.31%
Direct Employment	754		
Total Employment	3,880	0.328	3.30%
Direct Income	17,547,000		
Total Income	117,331,000	0.190	7.02%
Local Population	641	0.027	1.78%

Table F-9. EIFS construction model output for Reuse Alternative 2.

Indicator	Projected Change	Percentage Change	RTV
Direct Sales Volume	147,552,000		
Total Sales Volume	557,749,000	2.28	14.31%
Direct Employment	854		
Total Employment	3,228	0.27	3.30%
Direct Income	19,875,000		
Total Income	75,128,000	0.13	7.02%
Local Population	0	0	1.78%

Table F-10. Standard EIFS model output for Reuse Alternative 2.

Indicator	Projected Change	Percentage Change	RTV
Direct Sales Volume	386,267,000		
Total Sales Volume	1,460,090,000	5.9	14.31%
Direct Employment	2,237		
Total Employment	10,582	0.895	3.30%
Direct Income	52,061,000		
Total Income	303,057,000	0.510	7.02%
Local Population	1,324	0.06	1.78%

Table F-11. EIFS construction model output for Reuse Alternative 3.

Indicator	Projected Change	Percentage Change	RTV
Direct Sales Volume	165,715,000		
Total Sales Volume	626,405,000	2.57	14.31%
Direct Employment	959		
Total Employment	3,625	0.3	3.30%
Direct Income	22,318,000		
Total Income	84,362,000	0.14	7.02%
Local Population	0	0	1.78%

Table F-12. Standard EIFS model output for Reuse Alternative 3.

Indicator	Projected Change	Percentage Change	RTV
Direct Sales Volume	406,269,000		
Total Sales Volume	1,535,700,000	6.3	14.31%
Direct Employment	2,353		
Total Employment	13,395	1.13	3.30%
Direct Income	54,761,000		
Total Income	431,849,000	0.720	7.02%
Local Population	2,789	0.125	1.78%

Table F-13. EIFS construction model output for Reuse Alternative 4.

Indicator	Projected Change	Percentage Change	RTV
Direct Sales Volume	188,173,000		
Total Sales Volume	711,296,000	2.91	14.31%
Direct Employment	1,090		
Total Employment	4,120	0.34	3.30%
Direct Income	25,367,000		
Total Income	95,887,000	0.16	7.02%
Local Population	0	0	1.78%

Table F-14. Standard EIFS model output for Reuse Alternative 4.

Indicator	Projected Change	Percentage Change	RTV
Direct Sales Volume	457,752,000		
Total Sales Volume	1,730,305,000	7.1	14.31%
Direct Employment	2,651		
Total Employment	15,636	1.32	3.30%
Direct Income	61,696,000		
Total Income	474,941,000	0.80	7.02%
Local Population	2,997	0.135	1.78%

Table F-15. EIFS construction model output for Reuse Alternative 5.

Indicator	Projected Change	Percentage Change	RTV
Direct Sales Volume	334,853,000		
Total Sales Volume	1,265,745,000	5.9	14.31%
Direct Employment	1,939		
Total Employment	7,329	0.62	3.30%
Direct Income	45,126,000		
Total Income	170,576,000	0.28	7.02%
Local Population	0	0	1.78%

Table F-16. Standard EIFS model output for Reuse Alternative 5.

Indicator	Projected Change	Percentage Change	RTV
Direct Sales Volume	561,753,000		
Total Sales Volume	2,123,429,000	8.7	14.31%
Direct Employment	3,253		
Total Employment	19,335	1.63	3.30%
Direct Income	75,707,000		
Total Income	639,889,000	1.08	7.02%
Local Population	4,381	0.197	1.78%

Table F-17. EIFS construction model output for Reuse Alternative 6.

Indicator	Projected Change	Percentage Change	RTV
Direct Sales Volume	2,174,106,000		
Total Sales Volume	8,218,121,000	33.7	14.31%
Direct Employment	12,593		
Total Employment	47,601	4.02	3.30%
Direct Income	293,076,000		
Total Income	1,107,827,000	1.87	7.02%
Local Population	0	0	1.78%

Table F-18. Standard EIFS model output for Reuse Alternative 6.

Indicator	Projected Change	Percentage Change	RTV
Direct Sales Volume	2,471,561,000		
Total Sales Volume	9,342,503,000	38	14.31%
Direct Employment	14,316		
Total Employment	93,956	7.94	3.30%
Direct Income	333,176,000		
Total Income	3,265,639,000	5.51	7.02%
Local Population	24,801	1.125	1.78%

- **EIFS Construction Model Output**

CONSTRUCTION

**********CONSTRUCTION IMPACT FORECAST FOR OARB Alt. 1**********

Export income multiplier:		3.78	
Change in local			
Sales volume	Direct:	$77,600,000	
	Induced:	$215,730,000	
	Total:	$293,330,000	(1.20%)
Employment	Direct:	449	
	Total:	1,697	(0.14%)
Income	Direct:	$10,449,000	
	Total (place of work):	$39,499,000	
	Total (place of residence):	$39,499,000	(0.06%)
Local population .....:		0	(0.000%)

**********CONSTRUCTION IMPACT FORECAST FOR OARB Alt. 2**********

Export income multiplier:		3.78	
Change in local			
Sales volume	Direct:	$147,552,000	
	Induced:	$410,197,000	
	Total:	$557,749,000	(2.28%)
Employment	Direct:	854	
	Total:	3,228	(0.27%)
Income	Direct:	$19,875,000	
	Total (place of work):	$75,128,000	
	Total (place of residence):	$75,128,000	(0.13%)
Local population .....:		0	(0.000%)

**********CONSTRUCTION IMPACT FORECAST FOR OARB Alt. 3**********

Export income multiplier:		3.78	
Change in local			
Sales volume	Direct:	$165,715,000	
	Induced:	$460,690,000	
	Total:	$626,405,000	(2.57%)
Employment	Direct:	959	
	Total:	3,625	(0.30%)
Income	Direct:	$22,318,000	
	Total (place of work):	$84,362,000	
	Total (place of residence):	$84,362,000	(0.14%)
Local population .....:		0	(0.000%)

**********CONSTRUCTION IMPACT FORECAST FOR OARB Alt. 4**********

Export income multiplier:		3.78	
Change in local			
Sales volume	Direct:	$188,173,000	
	Induced:	$523,123,000	
	Total:	$711,296,000	(2.91%)
Employment	Direct:	1,090	
	Total:	4,120	(0.34%)
Income	Direct:	$25,367,000	
	Total (place of work):	$95,887,000	
	Total (place of residence):	$95,88 7,000	(0.16%)
Local population .....:		0	(0.000%)

**********CONSTRUCTION IMPACT FORECAST FOR OARB Alt. 5**********

Export income multiplier:		3.78	
Change in local			
Sales volume	Direct:	$334,853,000	
	Induced:	$930,892,000	
	Total:	$1,265,745,000	(5.9%)
Employment	Direct:	1,939	
	Total:	7,329	(0.62%)
Income	Direct:	$45,126,000	
	Total (place of work):	$170,576,00	
	Total (place of residence):	$170,576,000	(0.28%)
Local population .....:		0	(0.000%)

**********CONSTRUCTION IMPACT FORECAST FOR OARB Alt. 6**********

Export income multiplier:		3.78	
Change in local			
Sales volume	Direct:	$2,174,106,000	
	Induced:	$6,044,015,000	
	Total:	$8,218,121,000	(33.7%)
Employment	Direct:	12,593	
	Total:	47,601	(4.02%)
Income	Direct:	$293,076,000	
	Total (place of work):	$1,107,827,000	
	Total (place of residence):	$1, 107,827,000	(1.87%)
Local population .....:		0	(0.000%)

- **Standard EIFS Forecast Model Output**

STANDARD EIFS FORECAST MODEL

Project name: OARB Alt. 1 Traditional Reuse and Conservation

(Enter decreases as negative numbers)
If entering total expenditures, enter 1
Local expenditures, enter 2 : 1

Change in expenditures for local services and supplies:	$117,246,576
Change in civilian employment:	1,134
Average income of affected civilian personnel:	$50,377
Percent expected to relocate (enter <cr> to accept default): (0.0)	25
Change in military employment:	-104
Average income of affected military personnel:	$58,909
Percent of military living on-post:	100

**********STANDARD EIFS MODEL FORECAST FOR OARB Alt. 1**********

Export income multiplier:		3.78	
Change in local: Sales volume	Direct:	$130,187,000	
	Induced:	$361,921,000	
	Total:	$492,108,000	(2.01%)
Employment	Direct:	754	
	Total:	3,880	(0.328%)
Income	Direct:	$17,547,000	
	Total (place of work):	$117,331,000	
	Total (place of residence):	$117,331,000	(0.190%)
Local population .....:		641	(0.027%)

Project name: OARB Alt. 2 Maritime Reuse

(Enter decreases as negative numbers)
If entering total expenditures, enter 1
Local expenditures, enter 2 : 1

Change in expenditures for local services and supplies:	$405,504,030
Change in civilian employment:	2,231
Average income of affected civilian personnel:	$50,377
Percent expected to relocate (enter <cr> to accept default): (0.0)	25
Change in military employment:	-104
Average income of affected military personnel:	$58,909
Percent of military living on-post:	100

**********STANDARD EIFS MODEL FORECAST FOR OARB Alt. 2 **********

Export income multiplier:		3.78	
Change in local: Sales volume	Direct:	$386,267,000	
	Induced:	$1,073,823,000	
	Total:	$1,460,090,000	(5.9%)
Employment	Direct:	2,237	
	Total:	10,582	(0.895%)
Income	Direct:	$52,061,000	
	Total (place of work):	$303,057,000	
	Total (place of residence):	$303,057,000	(0.510%)
Local population .....:		1,324	(0.060%)

Project name: OARB Alt. 3 Adaptive Reuse

(Enter decreases as negative numbers)
If entering total expenditures, enter 1
Local expenditures, enter 2 : 1

Change in expenditures for local services and supplies:		$303,643,608
Change in civilian employment:		4,585
Average income of affected civilian personnel:		$50,377
Percent expected to relocate (enter <cr> to accept default):	(0.0)	25
Change in military employment:		-104
Average income of affected military personnel:		$58,909
Percent of military living on-post:		100

**********STANDARD EIFS MODEL FORECAST FOR OARB Alt. 3**********

Export income multiplier:		3.78	
Change in local: Sales volume	Direct:	$406,269,000	
	Induced:	$1,129,431,000	
	Total:	$1,535,700,000	(6.3%)
Employment	Direct:	2,353	
	Total:	13,395	(1.13%)
Income	Direct:	$54,761,000	
	Total (place of work):	$431,849,000	
	Total (place of residence):	$431,849,000	(0.720%)
Local population .....:		2,789	(0.125%)

Project name: OARB Alt. 4 OBRA Reuse Plan

(Enter decreases as negative numbers)
If entering total expenditures, enter 1
Local expenditures, enter 2 : 1

Change in expenditures for local services and supplies:		$355,319,387
Change in civilian employment:		4,920
Average income of affected civilian personnel:		$50,377
Percent expected to relocate (enter <cr> to accept default):	(0.0)	25
Change in military employment:		-104
Average income of affected military personnel:		$58,909
Percent of military living on-post:		100

**********STANDARD EIFS MODEL FORECAST FOR OARB Alt. 4**********

Export income multiplier:		3.78	
Change in local: Sales volume	Direct:	$457,752,000	
	Induced:	$1,272,553,000	
	Total:	$1,730,305,000	(7.1%)
Employment	Direct:	$2,651	
	Total:	15,636	(1.32%)
Income	Direct:	$61,696,000	
	Total (place of work):	$474,941,000	
	Total (place of residence):	$474,941,000	(0.80%)
Local population .....:		2,997	(0.135%)

Project name: OARB Alt. 5 High Density Business Park

(Enter decreases as negative numbers)
If entering total expenditures, enter 1
Local expenditures, enter 2 : 1

Change in expenditures for local services and supplies:		$374,925,888
Change in civilian employment:		7,143
Average income of affected civilian personnel:		$50,377
Percent expected to relocate (enter <cr> to accept default):	(0.0)	25
Change in military employment:		-104
Average income of affected military personnel:		$58,909
Percent of military living on-post:		100

**********STANDARD EIFS MODEL FORECAST FOR OARB Alt. 5**********

Export income multiplier:		3.78	
Change in local: Sales volume	Direct:	$561,753,000	
	Induced:	$1,561,676,000	
	Total:	$2,123,429,000	(8.7%)
Employment	Direct:	3,253	
Total: 19,335 (1.63%)			
Income	Direct:	$75,707,000	
	Total (place of work):	$639,889,000	
	Total (place of residence):	$639,889,000	(1.08%)
Local population .....:		4,381	(0.197%)

Project name: OARB Alt. 6 Maximum Density Traditional Office

(Enter decreases as negative numbers)
If entering total expenditures, enter 1
Local expenditures, enter 2 : 1

Change in expenditures for local services and supplies:		$1,174,646,292
Change in civilian employment:		39,946
Average income of affected civilian personnel:		$50,377
Percent expected to relocate (enter <cr> to accept default):	(0.0)	25
Change in military employment:		-104
Average income of affected military personnel:		$58,909
Percent of military living on-post:		100

**********STANDARD EIFS MODEL FORECAST FOR OARB Alt. 6**********

Export income multiplier:		3.78	
Change in local: Sales volume	Direct:	$2,471,561,000	
	Induced:	$6,870,942,000	
	Total:	$9,342,503,000	(38%)
Employment	Direct:	14,316	
	Total:	93,956	(7.94%)
Income	Direct:	$333,176,000	
	Total (place of work):	$3,265,639,000	
	Total (place of residence):	$3,265,639,000	(5.51%)
Local population .....:		24,801	(1.125%)

- **Rational Threshold Values for OARB**

RATIONAL THRESHOLD VALUES

All dollar amounts are in thousands of dollars.
Dollar adjustment based on Consumer Price Index (1987=100).

BUSINESS VOLUME (using Non-Farm Income)

YEAR	Non-Farm INCOME	Adjusted INCOME	CHANGE	DEVIATION	% DEVIATION
1969	5,287,903	15,644,684			
1970	5,618,267	15,693,484	48,800	-533,677	3.411 %
1971	5,922,224	15,877,276	183,793	-398,683	-2.540 %
1972	6,514,126	16,875,975	998,698	416,222	2.621 %
1973	6,991,300	17,051,951	175,976	-406,500	-2.409 %
1974	7,683,459	16,886,723	-165,228	-747,705	-4.385 %
1975	8,275,063	16,650,026	-236,697	-819,174	-4.851 %
1976	9,379,868	17,866,415	1,216,389	633,913	3.807 %
1977	10,318,171	18,458,266	591,851	9,374	0.052 %
1978	11,670,109	19,385,563	927,297	344,820	1.868 %
1979	12,969,680	19,357,731	-27,832	-610,308	-3.148 %
1980	14,271,942	18,754,195	-603,536	-1,186,013	-6.127 %
1981	15,545,616	18,528,743	-225,451	-807,928	-4.308 %
1982	16,345,643	18,386,550	-142,194	-724,670	-3.911 %
1983	17,958,151	19,604,969	1,218,419	635,943	3.459 %
1984	20,250,171	21,360,939	1,755,971	1,173,494	5.986 %
1985	22,333,895	22,766,458	1,405,519	823,043	3.853 %
1986	23,983,720	24,853,596	2,087,138	1,504,661	6.609 %
1987	25,952,779	25,952,779	1,099,183	516,707	2.079 %
1988	28,137,579	27,055,364	1,102,585	520,109	2.004 %
1989	30,075,764	27,592,444	537,080	-45,397	-0.168 %
1990	32,190,847	28,065,255	472,811	-109,665	-0.397 %
1991	33,731,158	28,250,551	185,295	-397,181	-1.415 %
1992	35,663,135	29,041,640	791,089	208,613	0.738 %

Average yearly change:	582,476
Maximum historic positive deviation:	1,504,661
Maximum historic negative deviation:	-1,186,013
Maximum historic % positive deviation:	6.609 %
Maximum historic % negative deviation:	-6.127 %
Positive rtv:	6.609 %
Negative rtv:	4.595 %

PERSONAL INCOME

YEAR	Personal INCOME	Adjusted INCOME	CHANGE	DEVIATION	% DEVIATION
1969	7,447,468	22,033,929			
1970	7,998,015	22,340,824	306,895	-587,771	-2.668 %
1971	8,499,723	22,787,462	446,637	-448,029	-2.005 %
1972	9,233,022	23,919,747	1,132,285	237,620	1.043 %
1973	9,953,868	24,277,727	357,980	-536,686	-2.244 %
1974	11,078,232	24,347,763	70,036	-824,630	-3.397 %
1975	12,194,448	24,536,112	188,350	-706,316	-2.901 %
1976	13,659,926	26,018,907	1,482,794	588,128	2.397 %
1977	15,032,845	26,892,387	873,481	-21,185	0.081 %
1978	17,080,316	28,372,618	1,480,230	585,564	2.177 %
1979	19,314,871	28,828,166	455,548	-439,118	-1.548 %
1980	21,958,797	28,855,187	27,022	-867,644	-3.010 %
1981	24,667,869	29,401,512	546,325	-348,341	-1.207 %
1982	26,306,227	29,590,806	189,294	-705,372	-2.399 %
1983	28,568,616	31,188,446	1,597,640	702,974	2.376 %
1984	31,775,004	33,517,936	2,329,490	1,434,824	4.600 %
1985	34,542,755	35,211,779	1,693,844	799,178	2.384 %
1986	36,825,361	38,160,996	2,949,217	2,054,551	5.835 %
1987	39,006,394	39,006,394	845,398	-49,268	-0.129 %
1988	42,056,000	40,438,462	1,432,068	537,402	1.378 %
1989	45,122,928	41,397,182	958,720	64,054	0.158 %
1990	48,766,863	42,516,883	1,119,701	225,035	0.544 %
1991	49,501,075	41,458,186	1,058,696	1,953,362	-4.594 %
1992	52,326,612	42,611,246	1,153,060	258,394	0.623 %

Average yearly change:	894,666
Maximum historic positive deviation:	2,054,551
Maximum historic negative :	-1,953,362
Maximum historic % positive deviation:	5.835 %
Maximum historic % negative deviation:	-4.594 %
Positive rtv:	5.835 %
Negative rtv:	-3.078 %

EMPLOYMENT

YEAR	EMPLOYMENT	CHANGE	DEVIATION	% DEVIATION
1969	670,758			
1970	675,853	5,095	-16,185	-2.413 %
1971	667,007	-8,846	-30,126	-4.457 %
1972	689,924	22,917	1,637	0.245 %
1973	709,571	19,647	-1,633	-0.237 %
1974	729,332	19,761	-1,519	-0.214 %
1975	728,195	-1,137	-22,417	-3.074 %
1976	748,325	20,130	-1,150	-0.158 %
1977	774,087	25,762	4,482	0.599 %
1978	812,352	38,265	16,985	2.194 %
1979	844,384	32,032	10,752	1.324 %
1980	865,462	21,078	-202	-0.024 %
1981	874,827	9,365	-11,915	-1.377 %
1982	873,331	-1,496	-22,776	-2.603 %
1983	897,349	24,018	2,738	0.314 %
1984	944,795	47,446	26,166	2.916 %
1985	985,002	40,207	18,927	2.003 %
1986	1,013,545	28,543	7,263	0.737 %
1987	1,049,505	35,960	14,680	1.448 %
1988	1,104,672	55,167	33,887	3.229 %
1989	1,132,449	27,777	6,497	0.588 %
1990	1,162,633	30,184	8,904	0.786 %
1991	1,156,466	-6,167	-27,447	-2.361 %
1992	1,160,197	3,731	-17,549	-1.517 %

Average yearly change:	21,280
Maximum historic positive deviation:	33,887
Maximum historic negative deviation:	-30,126
Maximum historic % positive deviation:	3.229 %
Maximum historic % negative deviation:	-4.457 %
Positive rtv:	3.229 %
Negative rtv:	-2.987 %

POPULATION

YEAR	POPULATION	CHANGE	DEVIATION	% DEVIATION
1969	1,606,500			
1970	1,630,300	23,800	248	0.015 %
1971	1,647,900	17,600	-5,952	-0.365 %
1972	1,667,200	19,300	-4,252	-0.258 %
1973	1,663,300	-3,900	-27,452	-1.647 %
1974	1,673,900	10,600	-12,952	-0.779 %
1975	1,680,000	6,100	-17,452	-1.043 %
1976	1,699,300	19,300	-4,252	-0.253 %
1977	1,714,900	15,600	-7,952	-0.468 %
1978	1,729,800	14,900	-8,652	-0.505 %
1979	1,742,100	12,300	-11,252	-0.650 %
1980	1,768,900	26,800	3,248	0.186 %
1981	1,794,400	25,500	1,948	0.110 %
1982	1,821,400	27,000	3,448	0.192 %
1983	1,852,800	31,400	7,848	0.431 %
1984	1,880,900	28,100	4,548	0.245 %
1985	1,912,800	31,900	8,348	0.444 %
1986	1,941,900	29,100	5,548	0.290 %
1987	1,970,300	28,400	4,848	0.250 %
1988	2,010,500	40,200	16,648	0.845 %
1989	2,052,800	42,300	18,748	0.932 %
1990	2,090,100	37,300	13,748	0.670 %
1991	2,116,600	26,500	2,948	0.141 %
1992	2,148,200	31,600	8,048	0.380 %

Average yearly change:	23,552
Maximum historic positive deviation:	18,748
Maximum historic negative deviation:	-27,452
Maximum historic % positive deviation:	0.932 %
Maximum historic % negative deviation:	-1.647 %
Positive rtv:	0.932 %
Negative rtv:	-0.823 %

Source: Bureau of Economic Analysis